

# The Automated Library II

by  
Sarte Systems

NOTE 2  
LIB

**The Automated Library II**

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THE AUTOMATED LIBRARY II

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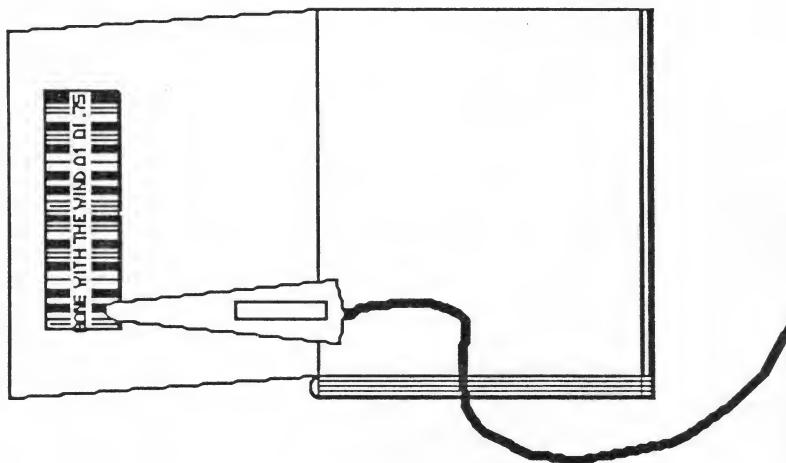
**maxell®**

MINI-FLOPPY DISK



*Sarte Systems*

8110 Manitoba St. #202  
Playa del Rey, CA 90293  
(213) 822-8612



**SARTE SYSTEMS DEALER Price List**

<b>The Automated Library II.....</b>	<b>\$200.00</b>
Documentation only	\$20.00
(price may be applied to the purchase of a system)	
Box of 5000 book labels	\$70.00
Box of 5000 student labels	\$40.00
Bar-code Wand	\$100.00

**PURCHASE ORDERS ACCEPTED**

# SARTE SYSTEMS

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8110 Manitoba Street #202  
Playa del Rey, CA 90293

**We only sell The Automated Library II directly to you through the mail.**

This allows us to sell to you at our "factory direct price" without dealer mark-ups. That is why The Automated Library II is the least expensive bar-code system, but it is also the most powerful, easiest to use system.

**You don't have to learn 'computerese' to use this system.**

Everything you do is in simple English. There are no bar-code numbers or book numbers to confuse you or your workers. Everything you can do is shown on a menu; all you do is select which option you want. You don't have to remember any special codes, or procedures. You can't get into trouble because the computer checks everything that you do, and if it finds an error it stops and warns you.

**There are no constraints on the number of items in your library.** The only limitation is that students must be assigned to a homeroom or other class for record keeping purposes, but this assignment may be completely artificial since it is only a way of keeping the file size small. The program works best with 200 to 3,000 students if you have floppy disks, although more students will simply cause the program to take a little longer to update every day. With a hard disk, you can have up to 9000 students. Daily updates must be run every day that items are circulated, and this takes about 10 minutes per 1000 students, using floppy disks. If you have a hard disk, the update run 5-10 times as fast.

**You can use floppy diskettes or a hard disk.**

The program works equally well with both, or you can even use floppy disks to start, and then change over to a hard disk just by copying your data to the new disk! There is no upgrade cost, or extra work. So you know you have room to grow.

**100% Guaranteed!**

If you purchase our system and are dissatisfied, you may return the system within 30 days, and you will receive a full refund. Of course we would prefer you to give us a chance to solve any problem you may have first. When you purchase a system you will receive my phone number, where you can leave a message, and I will call you with technical assistance within 24 hours. We do all this because we believe we have the best system you can buy. Try us and see for yourself!

Gregory Gibbons, Owner

## THE SARTE SYSTEMS AUTOMATED LIBRARY II:

- Automates the daily circulation of books, overdue lists, and fines.
  - Books are checked in and out with computer accuracy.
  - Students appear on the overdue list the day a book is overdue.
  - Fines are calculated daily, and printed on the overdue list.
  - There are no book cards to be misplaced or put in the wrong book (no snags).
  - Students with overdue books cannot check out more books without explicit permission.
  - Errors are reduced because repetitious clerical tasks are eliminated.
  - Only the books which are checked out are recorded on disk- no Floppy Shuffling!
- Creates bibliographies on disk which can be printed at any time.
- Gives the librarian (or teacher) instant information on any student.
  - Students checking out of school can be cleared easily and quickly.
  - English teachers can monitor their students.
- Lets students learn computer literacy while checking books in and out.
- Is "user friendly", and can be used by students within minutes.
- Overdue books are returned sooner.

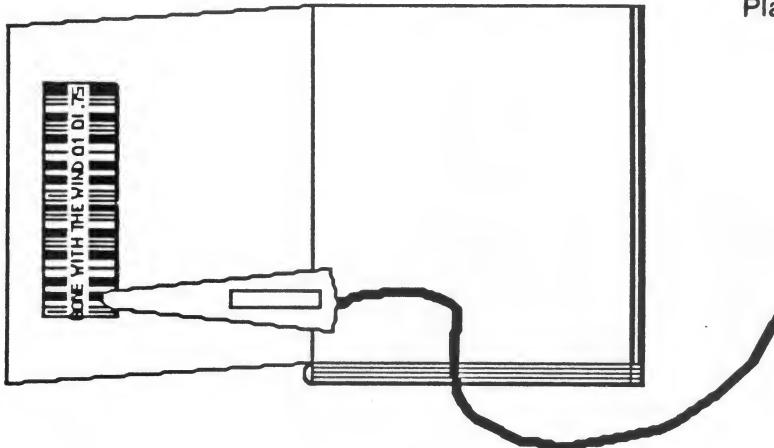
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From *Sarte Systems* includes these utilities:

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- It prints machine readable bar codes for students.
- It reads bar codes to check books in or out, or to pay fines.
- It updates all information every night.
- It prints out an overdue list at any time.
- It summarizes daily circulation by Dewey Decimal number.
- It will print or display any class with students and books.
- Information may be manually altered, if desired.
- It reads bar codes to create bibliography files, which may be saved.
- It calculates fines automatically.
- It allows IOUs.
- It automatically creates a backup for all information. Backup information may be kept for as long as desired!

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Box of 5000 student labels	\$50.00
Bar-code Wand	\$149.95

### ALSO REQUIRED: *FROM ANY COMPUTER DEALER*

- Apple //e or ATARI 800, 800XL OR 1200XL computer.
- 2 compatible disk drives.
- 1 computer monitor (Atari version requires a monitor with sound) or TV.
- EPSON MX-80 WITH GRAFTRAX, MX-80FT, RX80 or other Epson dot matrix printer with graphics, or GEMINI 10X printer, or Apple Imagewriter or Dot Matrix printer.
- Printer interfaces for the Apple //e:

Grappler      Dumpling      Wizard      Apple PIC      Dispatcher (Serial)

•Floppy diskettes.

•Printer paper.

•Additional printer ribbon.

## PURCHASE ORDERS ACCEPTED

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## The Automated Library II by SARTE SYSTEMS

The easy, powerful, fast, and accurate way to manage circulation (and print bibliographies and take inventory!) is also one of the least expensive fully automated bar-code computer systems available today!

You don't have to learn 'computerese' to use this system.

Everything you do is in simple English. There are no bar-code numbers or book numbers to confuse you or your workers. Everything you can do is shown on a menu; all you do is select which option you want. You don't have to remember any special codes, or procedures. You can't get into trouble because the computer checks everything that you do, and if it finds an error it stops and warns you.

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You can use floppy diskettes or a hard disk.

The program works equally well with both, or you can even use floppy disks to start, and then change over to a hard disk just by copying your data to the new disk! There is no upgrade cost, or extra work. So you know you have room to grow.

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If you purchase our system and are dissatisfied, you may return the system within 30 days, and you will receive a full refund. Of course we would prefer you to give us a chance to solve any problem you may have first. When you purchase a system you will receive my phone number, where you can leave a message, and I will call you with technical assistance within 24 hours. We do all this because we believe we have the best system you can buy. Try us and see for yourself!

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- Creates bibliographies on disk which can be printed at any time.
- Gives the librarian (or teacher) instant information on any student.
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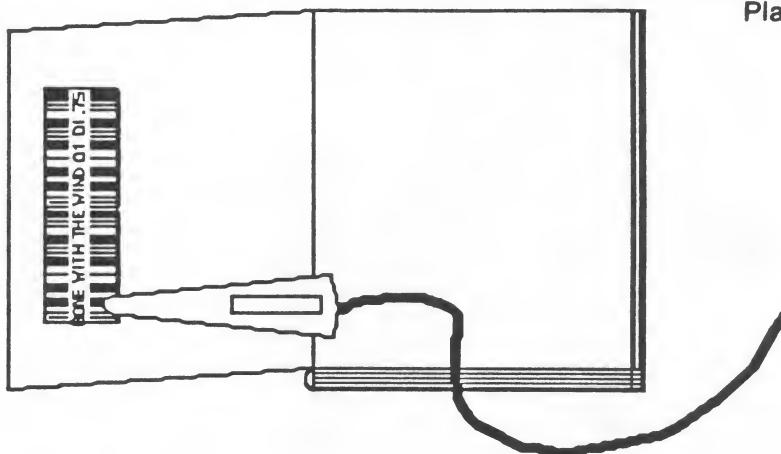
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- It calculates fines automatically.
- It allows IOUs.
- It automatically creates a backup for all information. Backup information may be kept for as long as desired!

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- Printer interfaces for the Apple //e:

Grappler      Dumpling      Wizard      Apple PIC      Dispatcher (Serial)

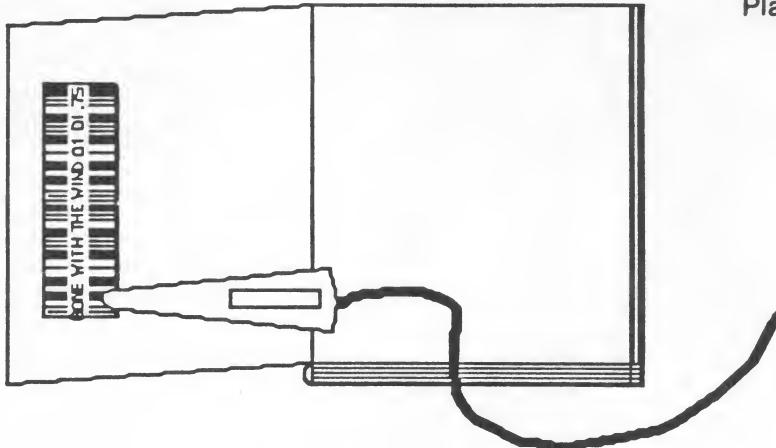
- Floppy diskettes.
- Printer paper.
- Additional printer ribbon.

## PURCHASE ORDERS ACCEPTED

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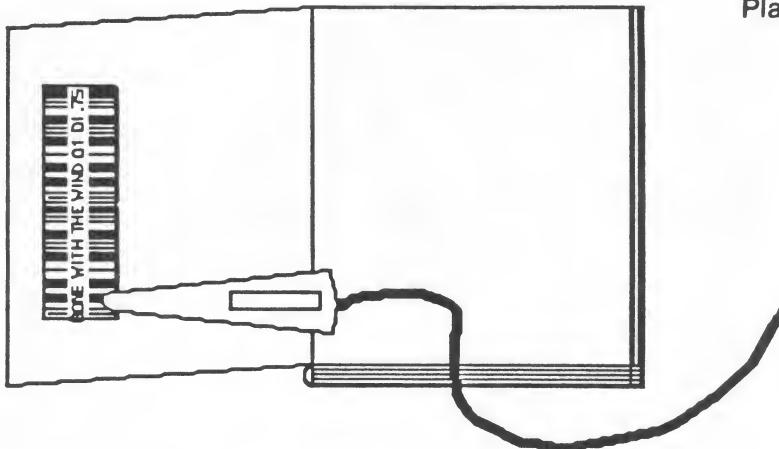
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# The Automated Library III

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**CHAPTER ONE  
OVERVIEW OF THE SYSTEM**

**WHAT THE AUTOMATED LIBRARY II DOES:**

The AUTOMATED LIBRARY II is a computer-based system for the circulation of books and other materials in school libraries. It uses bar-codes, similar to the familiar UPC (Universal Product Code) found on groceries and many other products today, to record transactions on a floppy diskette. A bar-code label is printed for each student and fastened to the student's ID card. Bar-code labels are also printed and fastened to every piece of circulating material. During check-out, a bar-code reader-wand connected to the computer is passed across the student's ID bar-code and then across the bar-code in the book. The computer records the transaction and saves it to a disk. A back-up copy of the disk, for protection, is made at the same time. To check in a book, the reader-wand is passed across the book bar-code only.

This system provides a fast and reliable charging method as well as automatically producing daily overdue lists and a daily summary of circulation by Dewey Decimal number. The overdue list prints the student's name and class and the book title as well as the amount of fine due. A search procedure enables the librarian to see all books and library fines currently charged to any student. Also, a student who has an overdue book is prevented from checking out additional books except with the librarian's permission.

The librarian can make bibliographies on any subject by collecting the appropriate books and passing the reader-wand over each book's bar-code. Each bibliography can be stored on disk and modified and/or printed at any time.

Inventory can be taken simply by making a bibliography file of each section of the library. These "bibliographies" will then actually constitute a shelf list. After the first shelf list is made, subsequent shelf lists can be compared, and a list of new books and missing books is automatically printed.

Students must be assigned to a class or group, for example the English teacher or homeroom teacher. Student ID numbers and a teacher code are assigned and recorded on a floppy disk and then printed in bar-code on labels which are fastened to the back of each student's ID card.

This system is not intended to print catalog cards or book annotations.

## ABOUT THIS MANUAL:

This manual has been organized so that it begins with the easiest introduction to the system, and then progressively deals with more and more complex topics. For those who feel adventurous, the program is very user-friendly, and it is not necessary to follow the manual if you want to plunge ahead, trying options. Come back to the manual when you are done trying things out, since there is useful information here which cannot be obtained from the menus.

Whenever a group of topics (such as a list of steps) are functionally related in this manual, they have been moved to one page wherever possible; this accounts for some of the pages which have large amounts of white space at the bottom. You are encouraged to photocopy pages with step by step instructions for use at the desk.

In addition, the manual has been printed on one side only, so that the facing sheet may be used for any notes you may wish to add to the documentation.

Where the manual talks about what you should see on the screen, a picture is shown of the relevant prompt. The pictures do not show the entire screen, since other information is not cleared by the program. If you see the relevant prompt on the screen, you are in step with the documentation.

Wherever you are asked to enter something at the keyboard, what you should enter is printed in **BOLDFACE**.

Information that is printed on the screen is shown as a picture of the screen in this manual. Wherever possible, this manual tries to accurately show the information just as it will appear on your screen. Sometimes there is information on your screen which is not related to the prompt which is shown in the manual. If so, you can assure yourself that you are in step with the manual if what is shown in the manual is the last (bottom) thing on the screen.

Also, in some cases the Apple and Atari versions of the program have slightly different information on the screen. In such cases the Apple screen is shown. If you are using an Atari, the prompts should be similar, and recognizable from the manual, but may not be identical.

Note from the Author: This disk is NOT copy protected! We suggest that you immediately copy the original disk, and put it safely away, using the copy for everyday use. We have done this against the precedent of most of the software industry, because we feel the program is more useful to you if you can be assured of backup copies whenever you need them. Of course you can still obtain Backup copies of the Program from Sarte Systems, if you need them.

We do fervently ask that you do not copy the program for other libraries, or accept copied programs from other libraries. Thank you.

This software is guaranteed to satisfy you. If for any reason you decide you do not want to keep this package, please return the entire package to Sarte Systems within 30 days for a complete refund. However, if you like the package, but would like some aspect of it changed, please feel free to contact me at the phone number below. If you explain what you would like to see, there is every chance we can provide it for you, as long as it works within the basic premise of the program.

Finally, if you have problems either understanding the manual or the program, or if you encounter a problem not covered by the manual, please call me at the phone number below. This phone number is my home phone, so please call between 7:00 A.M. and 9:00 P.M. Pacific time. You may receive an answering machine, if I am out, but if you describe the problem, I will try to have an answer ready for you when I call you back, and I will try to call you within 24 hours.

I am: Gregory Gibbons

Phone: (213) 822-8612. Again, please call between 7:00 A.M. and 9:00 P.M.  
Pacific time. Thank you.

## **SYSTEM REQUIREMENTS**

You will need all of the following:

### From SARTE SYSTEMS

- This instruction manual.
- The AUTOMATED LIBRARY II Program.
- A Bar-code reader-wand.

## HARDWARE REQUIREMENTS

One of the following microcomputers:

- Apple //e -or- Atari (800, 800XL, 1200XL) computer with at least 48K RAM
- Two compatible floppy disk drives, or a hard disk and one floppy drive.
- Video monitor, either color or monochrome (with sound, if you have an Atari) or a TV set.
- Printer: Epson MX-80, MX-80FT, MX-100 with Graftrax Plus, RX-80, FX-80, or FX-100; or Star Gemini 10X or 15X (or any Epson-Compatible printer with Graphics capability), or Apple Imagewriter or Apple dot-matrix.
- The appropriate controllers, (Printer interface if you have an Atari). NOTE: you do not need a graphics controller card for an Apple computer.

The program will work with the following printer interface controllers for the Apple //e:

Wizard IPI  
Grappler  
Dumpling  
Apple Peripheral Interface Controller  
Dispatcher (serial interface for the Imagewriter).

More interfaces will be added, so write us if you have a different printer interface.

## SUPPLIES

- Twenty (20) first quality single sided soft-sectored 5 1/4" floppy disks. (You will only use 4-5, the rest are for backups!)
- Extra printer ribbon.
- Printer paper.
- Student ID labels 2 1/2" X 15/16" \*
- Book labels 5" X 1 7/16"\*

## **RECOMMENDED**

- An extra disk drive available as back-up should one of the system drives need repair.

\*Available from Sarte Systems.

## **OVERVIEW OF THE SYSTEM:**

The primary function of The Automated Library II is to automate the circulation of library materials. It is a system which will allow you to maintain information on every student in your school, and to give you easy and rapid access to that information.

The system has great power and flexibility, and therefore there are a great number of different things you can do--hence the size of this document. However, the system is really very easy to use, and you do not have to memorize the commands in this manual. The rest of this manual will explain in detail about this system. Before you read about all the things you can do, here is a quick overview of a normal day.

The first thing in the morning you insert the program diskette into the computer and turn it on. Answer a couple of questions, put the two Daily Disks in the disk drives, and then the system will initialize itself.

When this is done, you will be presented with the main menu. At this point you may print the overdue list, or you can help some students if they are waiting and then print the overdue list. For the rest of the day, you can just leave the computer on. When a student wants to check books in or out, or pay an IOU, the desk worker selects that mode on the computer, reads a couple of bar-codes, and then presses **Control-Q (BREAK on Atari)**, which returns you to the main menu. If several students want to check out books, all of them may be done in rapid succession before exiting.

Most questions about overdue books can be handled with the overdue list. It tells you which students have overdue books, when they were due, what is owed, how much the book cost, and if the book was returned. If the book was returned but an IOU was made, the name of the book is followed by an 'R'. To handle a few changes (such as a student who is checking out of school) you will remove one Daily Disk, put in a Teacher Disk, and then you can view (or print) the student's record and all his books directly. Everything is in plain English!

At the end of the day, you tell the computer to run the Daily Update. The computer asks you a couple of questions, then tells you to put the Teacher Disks in one drive and the Daily Disk in another. Then the computer will update every student's record in the school. This will take 5-30 minutes, depending on the size of your school (it is fastest with a hard disk!).

After the Daily Update is done, you should back up the Teacher disks, put everything away, and go home.

CHAPTER I--OVERVIEW OF THE SYSTEM

That's all there is to it. Of course you can change the order you do these things, like making backups in the morning if you have more time, or checking out books after the daily update. The bulk of the work is checking books in and out, and taking care of fines and overdues. Students can do this work, freeing you to attend to other matters.

**Note:** It is our intention to provide continued support for the Automated Library II, and through continued improvements to make this the best computerized circulation system available.

To this end, we would appreciate your comments on any or all of the following:

- Ways to improve the program.
- Errors in the program or documentation.
- Your experiences with the program, which may be useful to others.

Please send correspondence to:

Sarte Systems  
8110 Manitoba St. #202  
Playa del Rey, CA 90293  
Attn: Library Users

## CHAPTER TWO GETTING STARTED

When you first receive your Sarte Systems AUTOMATED LIBRARY II Program, you will want to practice using its various functions before you install the system to record your library circulation. This chapter will take you through all of the procedures step-by-step, using just five books, five students, and two teachers.

### **SET UP THE COMPUTER**

If you are not familiar with the computer, disk drives and printer, please refer to the user's manuals. They contain instructions and diagrams for setting up your computer system. The printer manual and instructions with the interface will show you how to connect them and how to load paper into the printer. If you have an Atari, set the disk drives to Drive 1 and Drive 2.

### **FORMAT SOME DISKS**

You must also have a supply of soft-sectored, single-sided, double-density 5 1/4" floppy diskettes. Before using these you must format or initialize them. Refer to Appendix C, Using DOS for instructions on this procedure.

**If you are using an Apple //e**, boot the program, and when you are shown the Title card, press Control-Q then press RETURN. This will cause the Filer program to be run, which you can use to format some new disks.

**If you are using an Atari**, you must boot DOS from another disk in order to format your disks. Refer to Appendix C.

For practicing the procedures in this chapter you will need to format three new diskettes. Two of these will be named LIB1 and LIB2 and will be used for recording student ID's and charging transactions. The third diskette will be named TCH1, which will store teacher class lists and to which the daily transactions are transferred during the Daily Update. Use the labels that came with the diskettes (or some student ID labels) to label them "LIB1", "LIB2", and "TCH1".

ProDOS on the Apple //e requires volume names for all disks. When you format the disks using the Filer, use LIB1, LIB2, and TCH1 as the volume names for the disks. Later if you need more than one teacher disk, name it and label it TCHn where n represents a number between 1 and 9. You cannot skip numbers, i.e. if there is a TCH4 there must be a TCH3.

ProDOS on the Apple //e does not require a diskette to be in any particular drive. The program prompts do tell you to put diskettes into particular drives. There is no requirement that you use the drives asked for by the program; the program will be able to read and write diskettes regardless of which drive they are in. However, when a diskette problem occurs, the program attempts to tell you which disk has gone bad. These messages will lead you to the wrong diskete if you have not put the diskettes in the drive asked for by the program.

### **A TUTORIAL**

After you have some diskettes formatted, and the program loaded, we will print some sample book bar-codes and some student ID bar-codes on printer paper (rather than on labels). You can practice using the reader-wand and all of the other functions of the program on these practice bar-codes. This program is designed to be self-prompting. If you read and follow the directions shown on your screen, you will be able to step through each of the program's procedures without much reliance on this instruction manual. There is nothing you can do at the keyboard which will damage either the equipment or the program, so you should feel free to follow the screen prompts on your own and try each of the options offered on the main menu. If you should become stuck at some point, look at the following summary of the screen prompts and brief description of what you can expect from each of the five modes on the Main Menu and the seven modes of the file Management Menu.

#### **One thing to remember:**

**On the Apple:** You can exit any mode or function by pressing **Control-Q**, followed by **RETURN** if you are being asked for keyboard input.

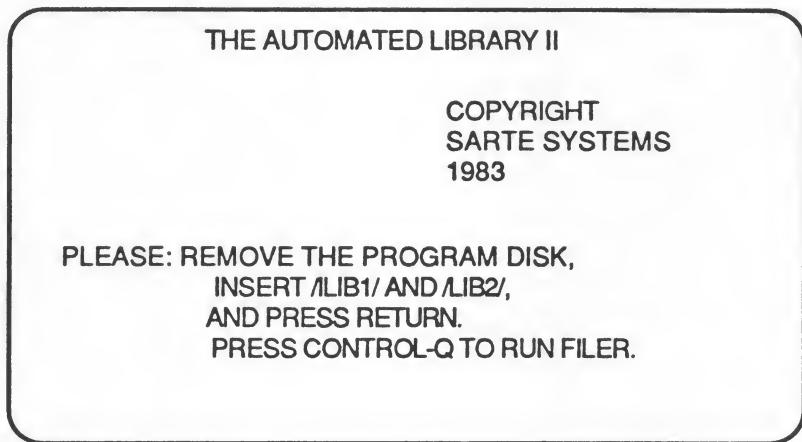
**On the Atari:** You can exit any mode or function by pressing **BREAK**.

### **LOAD THE PROGRAM**

Turn the monitor and printer on, and the computer off. (If you have an Atari, also turn on the printer interface, and the disk drives.) Insert the program disk into Drive One and close the door. Turn the computer on . The drive will activate and "boot" the program into the computer memory. After a few seconds the program title will appear on your screen.

## INITIALIZING THE SYSTEM

When the program finishes loading, this is the first screen you will see on your monitor or TV:



In order to proceed you must insert LIB1 and LIB2 into the Disk Drives and close the drive doors. If you have an Atari, both drives must be turned on and connected, and one drive must be set to drive two. Follow the screen prompt and press RETURN.

**On the Apple only:** The first time you run the program, you will be asked what kind of printer you have.

PLEASE SELECT YOUR PRINTER:  
(A)PPLLE DOT MATRIX  
(E)PSON  
(I)MAGEWRITER  
>

Type the appropriate letter, A, E, or I, and press RETURN.

Now you will be asked to type a letter for your interface. It is important that you know which interface you have, because the program could 'hang up' if a different one is installed than the one the program thinks is installed. This isn't a real problem, because you can simply restart by turning the computer off, and reloading the program. Type the appropriate letter from the list shown in the menu: A, W, D, G, or U.

PLEASE SELECT YOUR PRINTER INTERFACE:

- (A)PPLER
- (W)IZARD IPI
- (D)ISPATCHER
- (G)RAPPLER
- D(U)MPLING

YOUR DRIVERS WILL BE WRITTEN  
TO THE PROGRAM DISK.

PLEASE BE SURE IT IS NOT PROTECTED.  
TYPE THE APPROPRIATE LETTER, AND PRESS  
RETURN.

>

As the prompt says, make sure the program disk (or copy) is in the drive before you press RETURN, because the drivers will be written to the program disk. Henceforth, you will not see these prompts- the computer will read your printer and interface data from the disk automatically.

**If you want to change printers or interface:** Run the Filer program, and delete the file named "DRIVERS" from the program disk. This will cause the program to ask you for printer and interface data the next time it runs.

**On the Atari only:** You will see the following prompt

IS THE PRINTER RIBBON NEW?

Unless your printer ribbon is fairly new, press N and RETURN. This will cause the printer to double-print the bar-code for better quality.

**On both systems.** Next you will see the folowing prompt:

PLEASE TYPE THE NEXT STUDENT ID NUMBER  
TO ASSIGN.

Enter **0001** and press **RETURN**. You do need to type all four digits, even if there are leading zeros. The highest possible student ID number is 9999. You will not receive this prompt again unless you begin over with newly formatted disks, since the program records the last used ID number and begins again with the next one.

Both disk drives will activate as they set up the files for the two disks to receive data. Soon the main menu screen will appear:

THE AUTOMATED LIBRARY II  
Copyright SARTE SYSTEMS  
PLEASE SELECT MODE (1-5)?  
1) PRINT BOOK ID  
2) PRINT STUDENT ID  
3) CHECKOUT BOOKS  
4) CHECK IN BOOKS  
5) FINE PAYMENT

First practice printing bar-codes for book titles. Check that the paper is positioned and the printer and interface are on. Then select option (1) from the menu by pressing **1** (NOT **I** or **I!**), then **RETURN**.

WHAT IS THE TITLE?  
LETTERS OR SPECIAL CHARACTERS ONLY  
SPECIAL CHARACTERS ARE \* - . ? OR '  
IT CAN BE THIS LONG:  


Type **GONE WITH THE WIND**. Press **RETURN**.

WHAT IS THE CALL NUMBER OR AUTHOR?  
A CALL NUMBER MUST BE THREE NUMBERS,  
A PERIOD, THEN MORE NUMBERS.  
IF THERE IS ROOM, YOU CAN ADD A SPACE  
FOLLOWED BY THE AUTHOR'S INITIALS.  
IF IT IS A FICTION BOOK,  
TYPE THE AUTHOR'S NAME.  
IT CAN BE THIS LONG:  


Type **MITCHELL** then press RETURN.

WHICH COPY IS IT? (1-99)

Type **3** and press RETURN.

WHAT IS THE PRICE? ENTER AS (\$\$.CC)

Type **09.57** and press RETURN.

GONE WITH THE WIND                    MITCHELL  
03 09.57  
IS THIS CORRECT?

Answer the prompt with **Y** (or **N**) and press RETURN.

The printer should begin to print two lines of bar-code, and between them in condensed type, the human-readable characters for the same information. You will notice that the disk drives do not operate during this procedure. No computer record is made for the book information since its only purpose is to create the bar-code.

Now type in two more fiction entries and print the bar-codes. As you noticed in the prompt, there are limitations: Numbers in the title must be spelled out (TEN THOUSAND LEAGUES, for example) and the only punctuation permitted is the asterisk, dash, period, question mark, or apostrophe. Since many titles when written in full will exceed the 23 character limit, you may wish to use the asterisk to denote omitted words.

Non-fiction bar-codes. For non-fiction titles the author line becomes the call number. Enter the classification number in the following form: XXX.XXXX X in which the first three numbers are the Dewey number followed by a decimal point. After the decimal point you have the option of entering up to five more digits or you may instead enter a space and up to three letters of the author's name in **UPPER CASE**.

Below are examples of several ways call numbers may be entered:

<u>RIGHT</u>	<u>WRONG</u>	<u>REASON</u>
509. HAI	509 HAI	NO DECIMAL POINT
598.1 TIMO	598.1TIMO	NO SPACE
621.3806 A	621.3806 AB	TOO MANY CHARACTERS

Print several non-fiction bar-codes until you have a total of at least five.

To quit on the Apple: press **Control** and **Q**, then **Return**.

On the Atari: Since you will probably be using the computer to print hundreds of book bar-codes in a short space of time, the program has a safeguard to keep the typist from accidentally exiting the PRINT BOOK ID mode. To exit this mode, hold down the **START**, **SELECT**, and **OPTION** keys at the same time you press the **RETURN** key. Do this while the **WHAT IS THE TITLE ?...** prompt is on the screen and you will return to the main menu.

Now select mode 2:

**PRINT STUDENT ID**

When you press **RETURN** you will see this prompt:

PLEASE TYPE NAME

Type **RODRIQUEZ, JEREMIAH**

TEACHER?

Type ADA. This is a three letter code for the English, homeroom, or other teacher. For this practice we will enter Adams as ADA and Brown as BRO.

PERIOD?

Type 1. This is the period that the student has this teacher. Numbers 0 through 9 will be accepted.

STUDENT GRADE?

Type 7. Any grade K through 13 will be accepted, or any one or two character combination of numbers and/or letters.

When you press RETURN the computer responds with

RODRIQUEZ, JEREMIAH  
IS THIS CORRECT?

ADA 1 7

Respond by pressing Y, then RETURN.

The printer will print a short bar-code and under it in condensed type will print all the information you just typed in. On the third line will be printed the ID number which the computer has assigned in sequence.

Type in several more student ID's, but assign all of them to Adams period 1 or Brown period 2 (ADA 1, BRO 2). You will notice that after you have typed in two or three students, the disk drives will operate and these names and ID numbers will be recorded on the disks.

To exit the PRINT STUDENT ID mode press the Control-Q and Return on the Apple, or the BREAK key on the Atari. The disk drives will operate and you will be returned to the main menu.

Now select Mode 3:

### **CHECK OUT BOOKS**

Remove your sample book and student ID bar-codes from the printer and place the sheet on a firm, flat surface. You should have a Bar-code reader with a long cord attached. Also, you should have a short cord with a connector at each end. If you are using an Apple, you must use the short cord, which is an adapter for the computer. There should be a red mark at one end of the short cord. This end should be plugged into the controller port found at the lower left corner of the computer as you face the back. Plug the connector on the reader-wand cord into the adapter cord.

On the Atari, do not use the adapter at all. Plug the reader-wand connector into the left-hand port on the front of the 800 or the nearest port on the right side of the 800XL (controller port 1). If you look into the end of the reader-wand you should see a tiny red glow. Don't worry, it is not a laser and it cannot hurt your eyes!

After you select option 3 from the main menu and press RETURN, the screen will display this message (after the main menu):

OK TO CHECK OUT BOOKS (ID FIRST!)

The student's ID must be read first as a safeguard against being in the wrong mode. If you think you're checking in books you will read the book bar-code, and the computer will tell you something is wrong. You may try reading a book bar-code now just to see what will happen. When you get the error message, press Control-Q, and Return (BREAK on the Atari), then select Option 3 again and press RETURN.

Now check out a book. Holding the wand like a pen, pass it lightly and smoothly from left to right across the first student ID bar-code. If you did it correctly you will be rewarded with a chirp. (Atari an Apple //c users: Is the monitor volume turned up enough to hear?). If you hear a growl, you must try again.

Now pass the wand across the first book bar-code the same way, first across the top bar, then the one under it.

Again you will get a chirp on the top bar-code and a double chirp on the lower bar-code if the wand has read both bar-codes correctly. The double chirp means that the book has been checked out. The title, author, copy number, and price of the book will appear on the screen, and below this you will again get the prompt, OK TO CHECK OUT BOOKS.

If you get a chirp each time you read the bar-code, but the computer is unable to decode the bar-code, you will hear a growl from the monitor, and the screen prompt will say,

THE TITLE IS INCORRECT.  
PLEASE READ AGAIN.

It may require a few minutes of practice with the reader-wand before you get the knack of making a correct pass almost every time. The angle of the wand, the speed, smoothness, and the beginning and ending places all have some effect. Do not become discouraged. Keep trying as you make minor changes in one of the above conditions at a time. Once you begin to succeed, it will seem very natural and you will have no further trouble.

***Hints to make it easier to read bar-codes.***

- 1) When printing the bar codes, leave about 1/2" (if possible) of blank space to the left of the bar code. This allows the wand a small area to 'get up to speed'.
- 2) Place the wand well before the first bar, (but not off the label) when you start, and finish the read well after the last bar. This helps you maintain a constant speed while the wand is actually reading the bars.
- 3) Try to maintain a constant smooth speed across the bar-code. It doesn't help to go really fast, or really slow.
- 4) Make sure the wand is clean. The black tip can be unscrewed for cleaning, and the glass on the tip can be cleaned with a soft cloth.
- 5) Make sure the bar-codes are dark, but not smeared, or dirty.

If a large number of trials does not result in even one correct check out read, something may be wrong and you should turn to the Trouble Appendix before proceeding.

Continue to check out each of the books for which you have printed bar-codes to the students represented by the student ID bar-codes. You may notice that the disk drives do not operate every time a book is checked out. Several check outs are kept in the computer's memory and then recorded on the disks at the same time.

To exit from the CHECK OUT BOOKS mode, press **Control-Q (BREAK** on the Atari) and you will be returned to the main menu.

Now press **4** and **RETURN** to get into the check-in mode:

CHECK IN BOOKS. (TITLES ONLY!)

Most books are not checked in the same day they are checked out, but please check one in anyway to see what happens. By now you have learned to make, as well as to recognize, a good read with the wand. TITLES ONLY means that you do not read the student ID for check ins, but you do read both bars of the book bar-code .

Exit to the main menu by pressing **Control-Q or BREAK**.

#### **FINE PAYMENT**

Select mode **5** and press **RETURN**. You may read the prompts for collecting overdue fines, but practice in this mode will mean more after teacher files have been set up. Details of the procedure are covered in Chapter 6.

Now press **Control-Q (BREAK** on the Atari) to return to the main menu.

#### **FILE MANAGEMENT MENU**

A password is required to get to the File Management Menu since all of the options here should be performed by the librarian or a trained adult staff member. The original password is **WIZARD**. Type this word from the main menu instead of choosing modes 1-5. The password does not appear on the screen as you type it as a way to help preserve its confidentiality. After you press **RETURN** you will see this screen:

CHANGING PASSWORD.  
PLEASE ENTER AS DESIRED:

Any word or combination of characters may be chosen, but it is best to choose a short word that you can remember but that is not too obvious. When you type this in, it will not appear on the screen, but will be recorded on /LIB1/ when you press RETURN. At this point you will be returned to the File Management Menu.

SARTE SYSTEMS  
FILE MANAGEMENT  
SELECT ONE OPTION:

1. DAILY UPDATE
2. CREATE TEACHER / PERIOD FILE.
3. SEARCH A FILE
4. CREATE A BIBLIOGRAPHY
5. PRINT OVERDUE LIST
6. PRINT A FILE
7. DUPLICATE DAILY DISKS
8. EXIT TO FILER
9. COMPARE INVENTORY  
(RETURN FOR MAIN MENU)

When all of the transactions for one day have been completed, they must be transferred from /LIB1/ to the Teacher Disk. To do this, the librarian must run the Daily Update. When beginning however, the Teacher/Period files must be created on the Teacher Disk. Select Option 2 and press RETURN.

PUT A TEACHER DISK IN DRIVE 2.  
TYPE IN TEACHER/PERIOD (TTP)  
AND PRESS RETURN.

Remove /LIB2/ disk from Drive 2 and insert the third disk you formatted (TCH1 if you are using the Apple). This will become the teacher disk on which all of the transaction records are stored. For this practice session, enter /TCH1/ADA1 for Adams Period 1 (the /TCH1/ is the diskname). (For the Atari, simply type ADA1.)

/TCH1/ADA1  
IS THIS CORRECT?

When you press **Y** and then **Return**, a file for Adams named ADA1 will be set up on the Teacher Disk. All transactions involving students in this class will be written to this file during the Daily Update each day. You need not be concerned about the order in which you enter teacher files on a disk, since the program will alphabetize them for you. However, if you have more than one teacher disk, the program cannot alphabetize files over more than one disk.

Create a second teacher file by entering /TCH1/BRO2 for Brown Period 2, and typing **Y** in response to the prompt. Exit this option the normal way, by pressing **Control-Q** and **Return** on the Apple, or **Break** on the Atari.

As you may have realized, you exit from all options or functions by pressing the **BREAK** key on the Atari, and by pressing **Control-Q** and then **Return** on the Apple. (The return is not necessary if you are checking books in or out, creating a bibliography, or paying a fine.) Henceforth, this manual will just tell you to exit.

### **DAILY UPDATE**

Select **OPTION 1** and press **RETURN**. You will see this prompt:

HOW MANY TEACHER DISKS ARE THERE? (1-9)

Type **1** and press **RETURN**. When you get the system running, if you have more than 800 students or 40 classes you will have to split your teacher files onto two or more teacher disks. For now however, there is only one Teacher disk.

HOW MUCH IS THE FINE (FF.FF)?

Type in the amount of fine you charge per day. As the prompt says, you need to type leading zeros, so if you want to charge a nickel, you would type 00.05. Press Return.

WHAT IS THE TRANSACTION DATE ?  
PLEASE ENTER AS (MM/DD/YY)

THE TRANSACTION DATE refers to the day the transactions occurred, (not when the books are due). The program uses this date to see if books are overdue. For example, if you run the Daily Update at night, the TRANSACTION DATE will be today's date since the books were checked in and out today. If you are running the Daily Update the next morning, you would type in yesterday's date since that is when the transactions actually occurred (on Monday morning of course, it would be Friday's date). Please note: this is NOT the date when books will be due!

Months and days less than ten must begin with a zero. For example, 02/01/84 is February 1, 1984. For now, type in today's date. During normal operation, you may wish to run the Daily Update each night, or the following morning. The date you enter here should be the date that all the transactions occurred, i.e. the previous Friday if the update is being run Monday morning.

WHAT IS THE DUE DATE?

Enter the due date in the same form as you entered the checkin date and press RETURN. All books checked out during a single Daily Update will have the same due date.

PLEASE PUT /LIB1/ IN DRIVE 1,  
AND TEACHER DISK1 IN DRIVE 2,  
THEN PRESS RETURN.

Your new Teacher Disk is already in Drive 2 and, unless you changed it, the disk in Drive 1 is LIB1, so press RETURN.

Now both drives will operate as the data on LIB1 is entered into the teacher files on the teacher disk in Drive 2.

The progress of the Daily Update will be shown on the screen as follows:

ADDING NEW STUDENTS  
READING IN CHECKINS  
READING IN CHECKOUTS  
READING IN IOUS PAID  
ADA1  
BRO2

When the update has finished, the screen will display this prompt:

PLEASE REMOVE THE TEACHER DISK AND  
PLACE /LIB1/ IN DRIVE 1,  
AND PLACE TOMORROWS /LIB2/ IN DRIVE 2.  
THEN PRESS RETURN.

This prompt is asking you to put /LIB2/ back into Drive 2 before you press RETURN again. As the day's transactions are successfully written to the teacher disk(s), they are deleted from /LIB1/. Any data remaining in files on /LIB1/ at the end of the Daily Update is the result of there being no match for the student or book in any of the teacher files. These leftovers are reported to you on the screen at this point.

FINES LEFT:  
CHECKOUTS LEFT:  
CHECKINS LEFT:  
GONE WITH THE WIND MITCHELL O3 09.57  
NEW STUDENTS LEFT:  
  
THE DAILY UPDATE IS FINISHED.  
PLACE THE PROGRAM DISK IN THE DRIVE,  
AND PRESS RETURN TO RUN THE FILER.  
TO QUIT, JUST TURN OFF THE COMPUTER.

(The above screen is slightly different on the ATARI. The last line is just a reminder to back up the Teacher disks.)

Leftovers can be caused by several conditions which are discussed at length in Chapter 7. You should have had one leftover in your practice Daily Update. The book you checked in could not be found in any teacher file because it had not yet been added to a file during a Daily Update. It will be checked in the next time you run a Daily Update.

Running the Daily Update clears the Program out of computer memory so that the computer may hold more books in memory at one time. Therefore it is necessary to reload using the Program disk in order to return to the File Management Menu. If you press RETURN, and put the program disk in the drive, FILER will be loaded and run. This should speed up the process of making backups of the disks. To run the Automated Library II again, simply quit the FILER, and when you are asked for the name of the next program to run, type **/LIB1/LIB.SYSTEM.**

On the Atari, simply re-boot the program disk, or a DOS disk:

1. Remove **/LIB1/** and **/LIB2/** from the drives.
2. Insert the Program disk in Drive 1. Turn the computer off, then on again.
3. When the Program has loaded, remove the disk and insert **/LIB1/** and **/LIB2/** in Drives 1 and 2.
4. After you get back to the Main Menu, type in your password to bring up the File Management Menu.

Let's skip down to Option 6:

### **PRINT A FILE**

You may print any file from a Teacher Disk, from **/LIB1/** or **/LIB2/**, or from a bibliodisk (bibliodisks are discussed in Chapter 10). Check that the printer is ready, and press RETURN. The screen prompt asks

WHICH FILE?

**On the Atari:** Since most files will be printed or searched from a teacher disk, the program assumes Drive 2 if no drive number is entered. A file on a disk in Drive 1 can be printed by entering **D1:xxx**.

**On the Apple:** Disks can be in any drive. When you are asked for a file name, you must type the entire pathname, e.g. **/LIB1/CKI** for the Checkin file.

You can print the leftovers from the Daily Update by typing the name of any file in which there were leftovers. Since there was a leftover in your Check In file, type the file name, (either D1:CKI or /LIB1/CKI), and press RETURN. If everything is turned on, the printer will immediately begin to print out everything that is in that file . When printing has finished, you will be returned to the File Management Menu.

Press Option 6 again, and this time type /LIB1/SUMM (D1:SUMM on the Atari) for summary and RETURN. This will give you a printout of the day's circulation by Dewey Decimal number.

Now try OPTION 3:

### **SEARCH A FILE**

When you press RETURN this time, the prompt will again be

WHICH FILE?

Look at Adams' Period 1 class by typing /TCH1/ADA1 or just ADA1 on the Atari. Insert the Teacher disk, press RETURN, and the computer responds with

/TCH1/ADA1  
IS THIS CORRECT?

(On the Atari the screen will say 'D2:ADA1'. You will notice that the program assumes Drive 2 as a default.) Insert your Teacher disk in Drive 2, type Y and RETURN, and the disk drive will operate. Soon the list of students which you assigned to this class will appear and under each name, the titles of any books you checked out to them.

Notice that the cursor is in the upper left corner. This option gives you the opportunity to edit any file and record the changes you make on the disk. You may try editing this file now.

Use the arrow keys (with the control key on the Atari) to scroll the screen down and up, and the cursor to the right or left. Changes are made by typing over whatever you wish to change. The computer will not scroll the screen up past the top of the file, or down past the end. The strange character you see at the end of each record is a visible carriage return. They must be there, so don't delete them. On the Apple, there is an @ symbol at the end of the file.

The Shift and Delete keys together (just Delete on the Apple) will delete the entire book (or student) where the cursor is. You will use this to remove a book which has been lost and paid for, or if a book is checked in but the bar-code has been destroyed and is unreadable. To replace the book, use Shift-Insert (the "=" key on the Apple — don't use the Shift key). This combination can also be used to move books or students from one place to another. Of course, if you wish to, you can also print out any of these teacher files by using the PRINT A FILE option.

Exit the normal way. A new prompt appears:

SHALL I SAVE YOUR CHANGES?

When you make changes by editing a file, if you want to record these changes, you must rewrite the file to the disk. You do this by pressing Y then RETURN. If you decide not to save the changes, press Control-Q, RETURN (BREAK on the Atari) again and the WHICH FILE? prompt will appear. Exit to the FILE MANAGEMENT MENU the normal way.

Try Option 4:

#### **CREATE A BIBLIOGRAPHY**

A bibliography can be created on any subject by collecting the books you wish to list and reading their bar-codes with this option. You should read them in the order you wish them printed since the program will not alphabetize or sequence them. The prompt is:

PLEASE PUT THE BIBLIODISK IN DRIVE 2.  
THEN TYPE THE FILE NAME YOU WISH TO  
SAVE TO.

You may format and label a disk called BIBLIODISK for this purpose. (On the Apple, the disk can have any volume name you like.) One idea is to put bibliographies on the /LIB1/ disk—this will allow you to print bibliographies without changing diskettes. The title, author, and other information for each book will be saved to a file on the disk as the bar-code is read. You may store a number of bibliographies on the same disk by giving them unique file names. From this disk a bibliography can be printed using **OPTION 6) PRINT A FILE**.

Exit this option. You will be returned to the MAIN MENU. Return to the FILE MANAGEMENT MENU by using your password.

#### **PRINT OVERDUE LIST**

At this point, there are no overdue books in the computer. Before you can print an overdue list, you must make some books overdue. Do this by running the Daily Update again and for the TRANSACTION DATE type a date later than the previous DATE DUE. This will make all the books overdue. After the Daily Update is complete, you must load the Program again and get back to the File Management Menu by using your password.

Now select 5 and press RETURN. The prompt is:

EJECT PAGE AFTER EACH TEACHER (Y/N)?

If you are printing an overdue list for use at the front desk, you will want it all printed together, so reply "N". If you are printing lists to send out to teachers, then reply "Y" and the program will print the overdue books and students for each teacher on a separate page. The Overdue List data is stored on /LIB1/, so put that disk in DRIVE 1 and press RETURN. For any book not checked in by the due date, the Overdue List will print the student's name, class, the book title, author, copy, price, due date, and amount of fine owing. Fines are incremented by the amount you entered each time the Daily Update is run, up to 1/2 the price of the book.

The book you checked in, which appeared on the Check In leftovers, will not be on the overdue list. It was removed from the teacher file when the Daily Update was run again.

### ***DUPLICATE /LIB1/ or /LIB2/***

If you should have a disk problem, this option allows you to replace a bad disk by duplicating /LIB1/ or /LIB2/ while you are in the middle of other work and without having to leave the Program to load DOS. This option will only duplicate the books checked in and out, the fines paid, and the new students. Other files, like bibliographies or the overdue list should be copied using the Filer (or DOS on the Atari).

### ***Exit to Filer***

On the Apple version only, there is an added option which is especially useful if you are using a hard disk. By selecting Option 8, Exit to Filer, you can load the Filer program directly from the Automated Library II. This will allow you to duplicate disks, or perform other ProDOS functions. You can exit the Filer by using the Quit option, and load the Automated Library II by typing in "/LIB1/LIB.SYSTEM" as the next program to run.

### ***Compare Inventory***

Inventory control is performed by using the Bibliography function mentioned above. Simply create bibliographies of each section in your library (you will have to use several floppy disks). You can print these out for use as a shelf list to help you do inventory the first year. Make copies, and keep the originals and copies. In subsequent years, take Inventory the same way, by making bibliographies of the same sections, by reading the bar-codes of the books. Then use this function to compare the inventories from last year and now, and the program will print out a list of the new books, and a list of the missing books. This will be discussed in more detail later.

### ***SUMMARY***

At this point you have been through all of the steps of the Automated Circulation System. If you feel unsure about any of the procedures you should go back and try them again. The chapters which follow in this manual cover each of these procedures in greater detail and include suggestions for implementing this system in your library.

## CHAPTER THREE TYPING BOOK BAR-CODES

The largest single task involved in implementing the Automated Library II is the printing of book bar-codes. Every piece of material that circulates must eventually have a bar-code label attached. A student typist can probably do about fifty an hour, and since you know the size of your collection, you can estimate the amount of time involved. This chapter will explain in detail the book bar-code printing procedure and offer suggestions for organizing the work. Some of the suggestions for organizing the work will help you to get the system running long before you have book labels typed for every circulating item in the library.

### **PREPARE THE PRINTER**

Begin with a new or fairly dark ribbon in the printer. Load book labels (5" X 1 7/16") into the printer and adjust the first label to line up with the print-head. After printing the first label, it will probably be necessary to re-adjust the next label up or down somewhat.

It is also important that the printed bars have a 1/4 to 1/2 inch left margin since, if the reader-wand is passed across the edge of the label while reading, it will interpret the edge as a bar and cause a mis-read. To adjust the left margin of the labels, loosen the tractor locks (the wheels with the pins that hold and advance the paper) and shift the tractor wheels in either direction.

### **SELECT OPTION 1**

Load the Program into the computer as you did for your practice session (Chapter Two), and when the Main Menu comes up on the screen, select the PRINT BOOK ID mode by pressing **1** and **RETURN**. This prompt will appear on your screen:

WHAT IS THE TITLE?  
LETTERS OR SPECIAL CHARACTERS ONLY  
SPECIAL CHARACTERS ARE \* - . ? OR '  
IT CAN BE THIS LONG:  


The title must be typed in upper case with a maximum of 23 characters and spaces. Longer titles can be shortened with the asterisk, \*, used to represent missing words or letters. For example, CHARLIE AND\*CHO\*FACTORY.

There are no hard and fast rules for such abbreviations, but it is probably important to you that the first word of each title be typed out in full, although this does not affect the program. If the typist exceeds the limit, the letters after the first 23 are cut off and no harm is done. Numbers are not accepted, so when they appear in titles they must be written as words, for example, TEN THOUSAND LEAGUES\*.

After a title is typed in, the typist should check it on the screen before pressing RETURN. Errors can then be corrected by using the arrow keys on the Apple //e (DELETE/BACK S key on the Atari) and typing over. After the RETURN key is pressed any corrections will require retyping the entire entry. When the title is typed press RETURN, and the next prompt will appear:

WHAT IS THE CALL NUMBER OR AUTHOR?  
A CALL NUMBER MUST BE THREE NUMBERS,  
A PERIOD, THEN MORE NUMBERS.  
IF THERE IS ROOM, YOU CAN ADD A SPACE  
FOLLOWED BY THE AUTHOR'S INITIALS.  
IF IT IS A FICTION BOOK,  
TYPE THE AUTHOR'S NAME.  
IT CAN BE THIS LONG:  


You have room for ten characters and spaces for the author or call number. For fiction books, use capital letters for the author's name.

For call numbers, the rules are fairly rigid, as the prompt says. You must have exactly three numbers followed by a decimal point. After that, you may add as many numbers as you wish, up to 5. If there is room, and you wish to do so, you may add a few letters of the author's name after the call number, but the letters and numbers must be separated by a space. Extra letters will be lopped off, as they were in the title.

Here are three examples that show the proper form:

CORRECT  
509. HAILE  
598.1 TIM  
621.380 A  
PLACE

WRONG  
509 HAILE  
598.1TIM  
62.1380 A

REASON  
NO DECIMAL POINT  
NO SPACE  
DECIMAL POINT IN WRONG

After you type the call number or author and press RETURN, you will see this prompt:

WHICH COPY IS IT? (1-99)

Enter the copy number (any number between 1 and 99) and press RETURN.  
The next prompt is:

WHAT IS THE PRICE? ENTER AS (\$\$.CC)

Since you must have two places to the left of the decimal point for dollars, amounts less than ten dollars must be entered beginning with a zero, e.g. 02.95.

This completes the entry, so after you press RETURN once more, you will be asked to verify the correctness. For example:

MONKEYS                599.8 ZIM  
1 03.42  
IS THIS CORRECT?

If you see an error and type N, then RETURN, you will be given the WHAT IS THE TITLE? prompt again and you must retype the entire entry.

#### **PRINTING THE BAR-CODE**

If you type Y for yes and press RETURN, the printer will type a bar-code for the title, then a line of alphanumeric (human-readable) characters for the entry data, and another bar-code to represent the call number or author, copy number, and price. As soon as the printing stops you will get the WHAT IS THE TITLE? prompt again, and you can continue with the next book. If you have a printer buffer, you will be able to type the next bar-code while the printer is still printing.

You will notice that the disk drives do not operate during this procedure. No computer record is made for the book information since its only purpose is to create the bar-code.

### **CHECK THE BAR-CODES FREQUENTLY**

When you are just beginning, you should check the first bar-code labels for reader-wand legibility before you fasten them in the books. Follow these steps:

1. To exit this mode, you must have the prompt "WHAT IS THE TITLE?" on the screen.  
On the Apple, simply press **Control Q**, and **Return**.  
If you are using an Atari, exit the PRINT BOOK ID Mode by holding down the **START**, **SELECT**, and **OPTION** keys simultaneously while you press **RETURN**. This will get you back to the Main Menu.
2. Select Option 4, **CHECK IN BOOKS**, and press **RETURN**.
3. Connect the Reader-Wand cord to joystick port 1.
4. Pass the Reader Wand from left to right across the two bar-codes for a book, top one first. If you hear a double chirp and the book title appears on the screen followed by the prompt **OK TO CHECK IN BOOKS**, then you know you have a legible bar-code.

Even when everything is going smoothly, you should try reading a couple of labels in every 200 or so that are printed. It would be terrible to have printed several thousand bar-codes and have them fastened in books only to discover during check out that somewhere along the line the printer ribbon had gotten too light to read.

### **FASTENING THE BAR-CODE IN THE BOOK**

Bar-code labels should be fastened into books as soon as they are printed, one at a time. This helps eliminate the possibility of the wrong bar-code getting into a book. With a little practice, the typist will be able to fasten the bar-code into a book while another one is printing.

Although the label should be pressed onto the inside of the book cover firmly, do not rub the label as this may cause the fresh ink to smear and make it difficult or impossible for the light-pen to read.

Do not attempt to print bar-codes from shelf list cards. It is faster and safer to print the bar-code with the book in hand and to fasten it inside the cover immediately. Any other procedure invites the risk of getting the wrong bar-code into a book, and even a few of these in your collection can cause problem snags later on. Alternatively, you may choose to attach the bar-codes to the outside of the books, and to protect them with a transparent plastic cover. The bar-code reader can read through plastic, as long as it is clear and not too thick. Having the labels on the outside would aid in reading the bar-codes while the books are on the shelves, while taking inventory for example.

### **A PRINTER WARNING**

**CAUTION:** Be sure that no labels have come partly unstuck from their waxed backing. If a label comes off the backing while going through the printer, it may be necessary to partly disassemble the printer to clean it out. Use special care when rolling the labels backward in the printer, since that is the time when they are most likely to be pulled loose. And never back a full sheet of labels out of the printer to change to different labels or paper. Instead, tear off the sheet at the back of the printer and roll the remaining labels forward through the printer.

### **A STRATEGY FOR BEGINNING**

What follows in the next few paragraphs is a plan which was evolved by the Program test site librarian for putting the Automated Library II into operation when only a small percentage of the book bar-codes had been typed.

- Teach the most accurate typists in each period's student staff how to type book ID bar-code.
- Separate all books returned from circulation onto two book trucks:
  - 1) those needing bar-code and
  - 2) those with bar-code already typed.
- Each period the student typists prepare bar-code and return the books to the already-typed book truck to be shelved.
- After two months more or less, enough of your frequently circulating books will have bar-code so that you can "go on-line" with the AUTOMATED LIBRARY II circulation procedures while continuing to use the traditional check-out methods.
- When 8 or 9 out of 10 books appearing at the check-out desk already have bar-codes, you can go to 100% automated check-out either by printing any missing bar-code on the spot, or asking the student to return for the book at the close of school after the bar-code is printed.

There are several advantages to this method over the alternative of attempting to print bar-code for the entire collection section by section before going on-line:

- You will be able to enjoy the benefits of automated circulation several months to a year sooner.
- The books are already on the book truck and do not have to be taken off the shelves, carried to the computer, and then reshelfed again.
- Your student staff can practice automated circulation procedures on a gradually increasing basis without jeopardizing the accuracy of circulation records.
- Your library patrons will be able to learn more gradually what is expected of them with the automated circulation system (always carry your student ID card), and what they can expect from the system (daily overdue lists).
- Faculty, administration, students, library staff, and you the librarian will see the system in operation while enthusiasm and curiosity about the "computerized library" is still high. After the system is up and running smoothly, your student staff will have time during the next year or longer to complete the typing of book bar-codes for less-frequently circulated books. No doubt many books in your collection, although worthwhile, circulate less than once a year.

#### **RUN A PARALLEL CHECK OUT SYSTEM**

Even when you are circulating all books on the computer, you should not abandon the traditional method for at least one semester, or until left-overs, problems, and snags have become so minimal that you have confidence that the automated system is producing more accurate circulation records than the manual system. Your decision to entrust your circulation records entirely to the computer will be determined much more by the success of staff training in using new methods than by having every book ready to be checked out by computer.

After you have begun to use the computer every period for book circulation, it will be more difficult to find computer time to continue the printing of book ID bar-code. The easiest way, of course, is to have the use of a second computer. On the Atari, a disk drive is needed only to load the program into computer memory. Once the program is loaded, the disk drive can be removed and returned to the computer which is being used for circulation, since no disk drive is needed for the actual typing of book bar-codes.

## CHAPTER FOUR SETTING UP TEACHER FILES

Circulation records for the AUTOMATED LIBRARY II are organized around the principle that all of the library's patrons are assigned to classes which are identified by a teacher code consisting of the first three letters of the teacher's last name followed by the period which the student has that teacher. Thus ADA1 represents Ms. Adams' Period 1 class. The purpose of this is twofold, first so that it is easier for you to find a student, and second so that the computer may deal with only a few students at a time.

### ***CHOICE OF CLASSES FOR STUDENT ASSIGNMENT***

We recommend that the student's English class be the assigned class for library circulation records for these reasons:

1. In most schools English teachers make library and book report assignments and tend to bring their classes to the library more frequently than teachers in some other departments. The librarian is therefore more likely to have contact with the English teachers and this can be helpful in getting the teacher to bring pressure to get overdue books returned.
2. The printed daily Overdue List is sent to the student's assigned teacher. English teachers may have more interest in their students' library use habits than, say, P.E. or shop teachers.
3. For distributing the Overdue List, there is a smaller number of English teachers than homeroom teachers, thus saving both paper and time.

If your school has a separate daily homeroom period for bulletins and other school business, the homeroom teachers can be used as the assigned teachers for circulation records, although this will mean about five times as many teachers to deal with as well as five times as many copies of the Overdue List to distribute if you send out the Overdue List to teachers.

### ***PREPARING THE LIST OF TEACHER CODES***

To create the Teacher Files you will need a list of all of the teachers you plan to use for circulation records and the periods they teach. Check to be sure that using the first three letters of their last names for your codes will not result in any duplicates. If you have two Smiths in your English Department, for example, you can use the codes SMI and SMH.

Count the number of teacher periods on your list to determine the total number of teacher files you need to set up. Since the disk capacity limits you to 40 files per disk, you should divide your list more or less equally and alphabetically among the number of disks you will need. Disk capacity is greater on the Apple, but you should limit the number of files to under 50 anyway. If you have a hard disk, divide it into volumes which are about 200K each, and divide teacher files among them as if they were floppy disks.

**NOTE:** It is better to under-utilize the disks somewhat, by putting fewer teacher files than possible on each disk. This will allow you to add teachers later without shuffling teacher files from disk to disk.

Load and initialize the program, then use your password to get to the File Management Menu (type WIZARD to change or select your password). Select Option 2, CREATE TEACHER/PERIOD FILE, and press RETURN.

PUT A TEACHER DISK IN DRIVE 2 AND  
TYPE IN PREFIX AND TEACHER & PERIOD  
(/PFX/TTTP )

(On the Atari, the prompt simply asks you to enter the teacher and period; forget about the prefix. Just type the four letters, for example ADA3 for Adams period 3.) Follow the screen prompt (above) and insert a new formatted disk which you have labelled TEACHER DISK X in Drive 2. (The X is a number from 1 to 9.) On the Apple, a teacher code must have the prefix attached, for example you would type /TCH1/ADA3 for Adams period 3 class if it was on teacher disk 1. Enter each of the teacher codes which you had planned for this disk, and be sure to label the disk with the teacher files that are on it. Continue with another labelled Teacher Disk until all teacher codes have been entered. Exit the normal way.

Each of these teacher codes becomes the name of a file on the teacher disk. When you run the Daily Update each day, the records of new students, check outs, check ins, and fines owed will be transferred from Daily Disk One to these teacher files.

As a suggestion: a 'special' file of bar-codes for teachers can be created for those teachers who check books out from the library. For these bar-codes, you might enter 'XXX1' as the teacher, and create a "teacher file" called XXX1. This will keep these books separated at the end, yet still give you a reference of which books have been borrowed.

## CHECKING AND CHANGING TEACHER FILES

It is a simple procedure to examine a Teacher File at any time. By doing so you will see all of the students assigned to that teacher's class, and the titles, due dates, copy numbers, and price of any books checked out to them, and the amount of any fines owing.

To look at a Teacher File, go to the File Management Menu by using your password from the Main Menu. When you choose Option 3, SEARCH A FILE, you will see the prompt WHICH FILE? Respond by typing in the file name. On the Atari, this is simply the teacher code, e.g. ADA1. On the Apple, you must type the whole pathname, e.g. /TCH1/ADA1. When you press RETURN, the screen will show you the name of the file you asked for and ask you to verify (as seen on the Apple):

/TCH1/ADA1  
IS THIS CORRECT?

(On the Atari, it will read D2:ADA1- )

After you press Y and RETURN, Drive 2 will operate and the first ten or twelve student names, with any books they have checked out, will appear on the screen. To see the rest of the file, scroll the screen by pressing the down arrow (use the CTRL key on the Atari).

If you need to change any of the information in a Teacher File, move the cursor to the entry you wish to change by using the cursor control keys, and type over with the new information. You may want to change the spelling of a student's name or his/her grade level. (You can change an ID number, but it is probably safer to simply make a student a new ID.)

After all of the changes you wish to make in a particular file are completed, exit by pressing Control-Q on the Apple, or BREAK on the Atari, and you will see this prompt:

SHALL I SAVE YOUR CHANGES?

If you type "Y" and press RETURN, the file will be written to the disk just as you have changed it on the screen. If you make a mistake while editing, or you haven't changed anything, you will not want to record the changes you made, so type "N" and return, to revert to the original file. You may also simply exit the normal way by using Control-Q or Break, but remember that this will not save your changes to the disk.

### **MOVING A STUDENT RECORD**

If a student changes to another teacher's class, here is the procedure for changing his/her record from the previous teacher's file to the new teacher's file:

1. In Drive 2 insert the teacher disk which has the file containing the student's name. If the student's new teacher is on a different disk, that disk should be placed in Drive 1.
2. From the File Management Menu select Option 3, SEARCH A FILE, and bring up the file of the student's previous teacher.
3. Using the arrow keys, position the cursor on the student's name. Then with the **right arrow**, move the cursor on top of the first letter in the teacher code.
4. Type over the old teacher code with the code for the new teacher and period. Do not press RETURN. If you accidentally press return, you will see a graphics character appear. To recover, simply backspace, and type over that character again.
5. Press the ESCape key. Drive 2 will operate. If the program does not find the new teacher's file on the disk in Drive 2, Drive 1 will operate. When the new teacher's file is found, the Program will transfer the student's name, ID number, and all books and fines owed by that student to the new file.
6. The screen will then show the same class, but with the student removed.
7. Exit the normal way. Now you will again see this prompt:

**SHALL I SAVE YOUR CHANGES?**

Since you wish to save these changes, you should press "Y" and RETURN. The disk drive will operate and the file will be rewritten on the disk with that student's name deleted. If you type "N" and press RETURN (or BREAK on the Atari), the student and his books will not be deleted from this file, but they have already been added to the new file. Therefore, if this happens through an accident, you should delete the student and books from the incorrect file (the old one).

Now you are again given the prompt

WHICH FILE?

To check whether the student's record was actually moved to the new file, bring up the file of the student's new teacher. This may be either on the same disk or another teacher disk. Scroll down to the bottom of the file (by using the arrow keys) and there you will find the student's name and books checked out.

When you finish inspecting a file, exit the normal way, and in response to the prompt, press **Control-Q** or **BREAK** again. Continue with another file, or exit again to go to the **FILE MANAGEMENT** Menu.

**CHAPTER FIVE  
PREPARING STUDENT ID BAR-CODES**

Each student who checks out any circulating material must have an ID card with a bar-code ID. This bar code consists of an ID number which is assigned automatically in sequence by the computer. Below the bar-code are printed, in human readable characters, the student's name, teacher code, period, grade level, and the ID number.

***OBTAINING CLASS LISTS***

Before Student ID Bar-Codes can be printed, accurate class lists must be obtained. In most situations it may be quicker and more accurate to obtain these from the teachers of the classes than to wait for program cards or lists from the Counseling Office.

If the teachers are asked for their class lists, it is important that they understand why the lists must be up-to-date and accurate. Errors in class assignments that are typed into Student ID Bar-Codes can be corrected later, but it will cause some additional work. There are two plans which work well for typing the class lists into ID bar-codes:

1. Print ID bar-codes for an entire class before their teacher brings them to the library. This will be the best decision if a large percentage of the class is expected to check out books. This method gives you the opportunity to make copies of all of the bar-codes for a class on a copy machine. The bar-codes can be fastened to each student's ID card during the period that the class is in the library.
2. Type ID bar-codes from the teacher's roll book (or temporary class roll) while the class is in the library. This method will result in the most accurate class assignments, since no-shows and drops can be omitted, and there will be no confusion over which teacher and what period it is. It will take an average typist, without interruptions, less than thirty minutes to print bar-codes for a class of 35-40 students. There should be enough time in the period to make a photocopy of the bar-codes for the class. If not, their books can be checked out while these bar-codes are still on the backing sheet until ID cards are issued, and they can be asked to return to have them fastened to their ID cards. It is also a good idea to run the Daily Update to insure that everything is running smoothly before you release the Bar-codes to the students.

If your classes are large, avoid trying the second plan. It will simply be too much to do in one class period, while still checking out books.

## **TYPING STUDENT BAR-CODES**

When the Program is first started, it attempts to read the NEXTNUM file on the disk. The first time the Program is started or whenever newly formatted disks are used for the Daily Disks, the Program will be unable to read the NEXTNUM file, and so it asks you:

PLEASE TYPE THE NEXT STUDENT ID NUMBER  
TO ASSIGN.

You should type in 0001 the first time you start the program. After you do this, the program will assign the next available number from 0001 to 9999 each time a student ID bar-code is prepared.

**Note:** If you begin using a new daily disk at some point during the year, you will be asked for the next ID number again. You must make sure that you do not enter a number that is below the last number assigned, or two students will have the same ID number. The computer may then check books out to the wrong student. It is perfectly all right to enter a larger number than the last ID assigned. In such cases, it may be easiest to skip a hundred numbers or more to insure there is no overlap.

To print a student ID, select mode 2:

## **PRINT STUDENT ID**

When you press RETURN you will see this prompt:

PLEASE TYPE NAME

Any combination of letters or characters is acceptable. The student's name will be stored on diskette, so you are not limited to capitals, or letters or even numbers. The printed bar-code consists only of the ID number.

Student names are limited to 26 characters. If you type more they will simply be lopped off the end. Press RETURN after the name has been typed.

TEACHER?

This is a three letter code for the English, homeroom, or other teacher. Here you must enter the three letter code exactly the same for all students in the same class, and also the same as the teacher code which you create on the Teacher Disk. Use only capital letters, and press RETURN after the teacher code.

PERIOD?

This is the period that the student has this teacher. Numbers 0 through 9 will be accepted. Again, this character must match the last character on the name of the Teacher file that you create on the Teacher disk. Press RETURN after the Period.

STUDENT GRADE?

Any grade K through 13 will be accepted, or any one or two character combination of numbers and/or letters. This information is recorded on the disk, and printed on the ID bar-code in human readable characters, but it is not used by the program. It is for your use only. When you press RETURN the computer responds by printing all the information you have entered, and requesting verification:

RODRIQUEZ, JEREMIAH  
IS THIS CORRECT?

ADA 1 7

If you press Y and RETURN, the printer will print a short bar-code and under it in condensed type will print all the information you just typed in. On the third line will be printed the ID number which the computer has assigned in sequence. You will notice that after you have typed in two or three students, the disk drives will operate and these names and ID numbers will be recorded on the disks.

Exit the normal way. The disk drives will operate while the computer closes the files, and you will be returned to the main menu.

The set of student ID bar-codes for each class should be photocopied and the copies kept in a notebook at the circulation desk for use when a student has forgotten or lost his/her ID card. Several (20 -30) student ID bar-codes can be photocopied onto one page, as one class. If a student later asks to check out a book and doesn't have his ID, the librarian can look up the copy of his ID by his class, and use the photocopy to check out the book. The photocopy can be read just as easily as the original. Make sure that the whole bar-code gets copied; it won't work if even one bar is accidentally covered or extended off the page.

Once copies are made, the original label should be fastened to the back of the student's ID card.

After an entire class has been typed in, the student ID numbers will be on the Daily Disks. When the Daily Update is run, all of the Student ID's recorded for that day will be transferred to the correct Teacher File on the Teacher Disk. It takes the Daily Update longer to move student IDs to the teacher disks than to check out books. So in the beginning, if you assign many IDs in one day, the Daily Update will take a little longer.

If a student changes classes after his or her bar-code ID is printed, it is not necessary to print a new bar-code in order to make the change in the Teacher Files. The student can be moved from one file to another and deleted from the previous teacher's file by using the SEARCH FILE Option from the FILE MANAGEMENT MENU. (See Chapter Four, Setting Up Teacher Files)

### **STUDENT ID CARD POLICY**

The Automated Library Program assumes that each student has a school ID card and carries it, at least when he or she wants to check out a library book. The ID card may be any card, however, even one issued by the library. The bar-code label should be fastened to the back of the card so as not to obscure any part of the student's picture, signature, or other identifying information.

The librarian must decide on how strictly to insist that a student not be permitted to check out books if he or she forgets or loses the ID card. The library where the system was tested charged a small fee to have the duplicate bar-code looked up and the book checked out with it, thus inducing the students to remember their IDs.

When a lost ID is replaced, a new bar-code, with a new ID number, can be printed for the student, again for a small fee. A photocopy should be made. The old ID number should be kept in the teacher file, since the student may find the ID and check out books with it.

**CHAPTER SIX**  
**AUTOMATING THE CHARGING DESK**

Installing a computer at the charging desk will require changing a few of the desk procedures. This chapter will suggest procedures that have been tested at a junior high school library with an average daily circulation of about 120 books per day. Libraries with circulation either much larger or smaller than this will want to make common sense adjustments to these procedures.

**NOTE:** Whenever the computer is not actively being used, it should be returned to the Main Menu. Do this by pressing **BREAK** on the Atari, or **Control-Q** and **Return** on the Apple. This causes the computer to close any files it is working with, and to clean things up a bit. If this is not done, there is a possibility that the computer could be accidentally turned off and the files would then permanently contain an error. You won't lose everything, but you could lose two or three books.

**OVERVIEW OF THE CHARGING SEQUENCE**

Here is the sequence of events for book check out, check in, fine payment, recording IOU'S, and renewing books. This description assumes that the computer is ready to go, the program is loaded, the Daily Disks are in the drives, and the Main Menu is up on the screen.

It also assumes that during the initial semester you are keeping parallel circulation records; i.e., you are continuing to use your traditional circulation system. Those steps which will no longer be necessary once this system is fully installed are enclosed in brackets: [ ]

**RENEWING BOOKS**

1. If a student wants to renew a book, simply check out the book to the student again without checking it in. The Program contains a protection against checking out a book twice and will delete the previous check out automatically.
2. If a student wants to renew an overdue book and pays the fine, follow the same procedure; i.e., simply check out the book.

**BOOK CHECK OUT:**

1. Select Mode 3) CHECK OUT BOOKS. The screen should display this:

OK TO CHECK OUT BOOKS (ID FIRST!)

2. [Student has signed the book check card before coming to the desk.]
3. Student presents the opened book with his ID card.
4. Compare ID card picture to student [and signature to ID card signature.]
5. [Compare book check card title and copy number to title and copy number on the book pocket.]
6. Turn over ID card and pass reader-wand across bar-code. Listen for the acceptance chirp.
7. Pass reader-wand across book bar-codes. Listen for double chirp as reader-wand completes second pass.
8. Look at the screen for the book title and the OK TO CHECK OUT BOOKS prompt.
9. Stamp the due date in the book [and on the card.]
10. Hand the book to the student.

NOTE: You can check out (or in) as many books as you like without pressing the BREAK key.

11. When you have checked out a book to the last student waiting at the desk for the moment, press the BREAK key. This records the most recent check outs on the Daily Disks and returns the screen to the Main Menu.
12. [File the book check card in today's circulation file.]

If the student has lost or forgotten the ID card, some extra steps will be necessary.

- Verify the student's identity.
- Find the duplicate of the student's ID bar-code in the class-list notebook.  
You may want to charge a fee (15 cents?) for this extra service.
- Use the duplicate ID bar-code to check out the book in the usual manner.

**BOOK CHECK IN:**

1. Press **4) CHECK IN BOOKS and RETURN.** The screen should read:

CHECK IN BOOKS (TITLES ONLY!)

2. Open the book and check the due date.
3. If the book is NOT overdue, pass the reader-wand across the book bar-codes. Listen for the double chirp.
4. Look at the screen for the book title and the prompt **CHECK IN BOOKS (TITLES ONLY!).**
6. [Slip the book.]
7. Put the book on the book truck with the other check-ins.
8. After all the books are checked in for a while, press the **BREAK** key so that the last check-ins are recorded on the disks.

**OVERDUE BOOKS AND FINE PAYMENT**

If the book being checked in is overdue:

1. Ask the student to pay the fine shown on the overdue list (unless excused because of illness, etc.)
2. If the student pays the full amount of the fine:
  - Check in the book the same as if it were not overdue.
  - Have the student sign the fine receipt sheet.
3. If the student does not have the money for the fine, or can pay only part of the fine:
  - [--Have the student fill out an IOU for the amount of fine.]
  - In the **CHECK IN BOOKS** mode, press the **F** (for fine) key on the keyboard (do not press RETURN). The computer's screen should say:

CHECK IN BOOKS (TITLES ONLY!)

ASSIGN IOU TO STUDENT.

Now read in the book bar-code. This will stop the fine, and print an 'R' after the book (on the Atari, the book is printed in *italic type*) on future overdue lists to indicate that the book has been returned, but a fine is still owed.

(If you have an Atari, skip down to the next prompt.)

--A screen prompt will ask the following:

PAY PART OF THE FINE NOW (Y/N)?

If the student does not wish to pay any part of the fine now, simply type "N" and press RETURN. You will be returned to the Check In Books mode, so you can continue to check in books. If you type "Y" and press RETURN, you will see the following prompt:

TO PAY A FINE,  
PLEASE READ THE STUDENT ID.  
PRESS CONTROL-Q TO QUIT.

(On the Atari, the prompt will say BREAK instead of Control-Q.) Read the student's ID bar-code. The screen will ask you to type in the amount paid now:

TO PAY A FINE,  
PLEASE READ THE STUDENT ID.  
PRESS CONTROL-Q TO QUIT.  
PLEASE TYPE AMOUNT PAID (\$\$.CC)?

Type in the amount paid in the format shown (with leading zeros if necessary, followed by RETURN. If the student decides not to pay any part of the fine now, press Control-Q or BREAK in response to the first prompt to go back to the Main Menu.

4. If the student wants to renew the book, go to the CHECK OUT BOOKS mode and read the student's ID bar-code and the book bar-code. The screen prompt will state that the student is on the Overdue List and asks you to type Y if you want to override it. Type Y, and Return. Do not check out the book another time, it has already been checked out by the computer!

## **FINE PAYMENT**

The only case where you will need to use Mode 5) FINE PAYMENT is when a student wants to pay all or part of the fine on a previously returned book. On the Overdue List, the book title will be printed with an 'R' at the end (in *italics* on the Atari). Follow the screen prompts:

TO PAY A FINE,  
PLEASE READ THE STUDENT ID.  
PRESS CONTROL-Q TO QUIT.

1. Read the student's ID bar-code with the reader-wand. Listen for the beep.

TO PAY A FINE,  
PLEASE READ THE STUDENT ID.  
PRESS CONTROL-Q TO QUIT.  
PLEASE TYPE AMOUNT PAID (\$\$.CC)?

2. Type in the amount of fine the student is paying now in the form (\$\$.cc).
3. Press RETURN to record to the disks. You will then be returned to the Main Menu.
4. [If the student has previously signed an IOU, find it in the IOU file and correct it for the amount still owing, or destroy it if the entire fine has been paid.]
5. Ask the student to sign the fine receipt sheet for the amount of fine paid now.

## **ORGANIZING THE WORK FLOW**

Place the computer on the charging desk so that books coming in or going out can move from left to right or right to left, but do not have to cross behind the computer. If there is an electronic security system in the library, the computer monitor should be kept at least eight feet away from it, for the sake of the security system.

As you come to depend on the computer for all of your circulation records, it is important to have absolute confidence in their accuracy. The computer will assure such complete accuracy if the student and adult staff are trained to be consistent in every step of the charging desk procedure.

The Program is designed to permit any of the files to be viewed on the screen or printed on the printer very easily, making it possible for the librarian or an experienced adult assistant to check on how carefully and completely the student staff members are following the new circulation procedures. For example, the CKI (check in) file on the Daily disks can be viewed at any time and since the books are listed in the order in which they were put through the computer, the books in the file can be compared with those on the check in book truck. This will verify that the desk monitors are remembering to put every checked in book through the computer.

Many safeguards against charging desk error are built into the program. For example, if the desk assistant becomes distracted during the check-out procedure and reads the bar-code for the same book twice, the program will ignore the first check-out and record only the second. If a book or student ID bar-code becomes unreadable due to wear or if it is written on, the computer will not return to the OK TO CHECK OUT BOOKS prompt until a readable bar-code is presented. If a student checks out a book that is already checked out to another student, the computer will automatically check the book in for the first student, when it checks the book out to the new student.

When training student staff, it is a good idea to stress that one book at a time should be processed through the computer completely before another book is handled. Staff should try to avoid being interrupted partway through a check out or check in procedure.

With the AUTOMATED LIBRARY II, snags will be virtually non-existent. Even if a library assistant forgets to read the bar-code of a book being checked in, that book will no longer be charged to the student as soon as it is checked out by someone else; if it is not checked out it should be found on the shelf.

A situation that could cause a problem, however, is if a book is checked out and checked in again the same day. If the same book is again checked out that day, the computer may assign it to the first person who checked it out, rather than to the person who actually has it. To avoid this possibility it is best to keep the day's check ins on the check in book truck behind the desk where they are not available for check out until the next day.

If a book is not checked in, the fine will continue to increment by the amount you specify each school day until it reaches one half the cost of the book. At that point the program will not increase it further. Since fines are only incremented during the Daily Update, they are not increased over weekends or holidays.

## CHAPTER SEVEN RUNNING THE DAILY UPDATE

At the close of each day's circulation, the circulation records on the teacher disks must be brought up to date. This consists of transferring books checked out and checked in and fines paid from Daily Disk One to the correct Teacher Files.

The Program accomplishes all of this automatically. All that you need to do is to go to the File Management Menu by using your password and select Option 1) DAILY UPDATE. When you press RETURN you will see this prompt:

HOW MUCH IS THE FINE? (\$\$.CC)

Type in the amount of fine you charge to students per day. You need to type 00.05 if you only charge a nickel. The amount you type is added to the fine of each overdue book. If you wanted to charge extra over a holiday, simply type the total amount the last time you run the Daily Update before the holiday.

Next you will see this prompt:

HOW MANY TEACHER DISKS ARE THERE? (1-9)

Respond with the total number of disks that your teacher files are on, and press RETURN. You will see this prompt:

PUT TEACHER DISK 1 IN DRIVE 2 , THEN  
PRESS RETURN.

Put the teacher disk in the drive, and press RETURN. Daily Disk 1 should still be in Drive 1. The next prompt is

WHAT IS THE TRANSACTION DATE?  
PLEASE ENTER AS (MM / DD / YY).

## CHAPTER 7--RUNNING THE DAILY UPDATE

If you are running the Daily Update at the end of the day, the Transaction Date will simply be today's date. This is the day all the books were checked in. If you run the Daily update the following morning, you will use the previous day's date (or Friday's date if you are running the Daily Update on Monday morning).

Next you will enter the due date. All of the transactions in a Daily Update will have the same due date.

### WHAT IS THE DUE DATE?

Type in the due date for the books which were checked out, then press RETURN. Both disk drives will begin to operate.

Next, the screen will show you the progress of the Daily Update as follows:

ADDING NEW STUDENTS  
READING IN CHECKINS  
READING IN CHECKOUTS  
READING IN IOUS PAID

The following paragraphs explain what occurs during the Daily Update. You do not need to know this to run the program, and if you are not interested, skip ahead to the next paragraph. Come back and read this later though, since it will help you to understand how to get more out of the program, and how to solve problems when they occur.

The Program adds new students to their classes as the first step in the daily update. Then all activity during the day, (Check ins, Check outs, Fines paid) are read from the daily disk into the computer's memory. Next the Program reads one teacher file at a time, and updates each student's record as it is encountered. You can watch this progress on the screen, as the computer tells you the name of each file as it begins a new one. If the student has checked out a new book, that book is added to his record. If he has paid a fine, it is subtracted from the fine of the first book which is overdue (regardless of whether it has been returned or not!) If the payment of that fine causes the fine on an IOU to go to zero (and the book has been returned), the book is deleted from his record. If the student has an overdue book or fine, that information is written in the OVER file on Daily Disk One. When an entire class has been processed, that information is written on the Teacher disk, replacing the

old information. The progress of the program through the files is shown on the screen.

As the update continues, you will then see the name of each of the teacher files as it is opened and updated. For example:

ADA1  
ADA3  
ADA4  
BRO2  
BRO6

Et cetera, until all of the teacher files on the first Teacher Disk are done. This will take from 5-10 minutes. The amount of time required depends on how many students the computer has to process, and the type of computer and disk drives you have. It is especially fast with a hard disk!

Then a bell will sound, the drives will stop, and you will be given another prompt:

PUT TEACHER DISK 2 IN DRIVE 2 , THEN  
PRESS RETURN.

Of course, this only happens if you have told the computer that there is more than one teacher disk. Leave the Daily Disk in Drive One. Change the disk in Drive Two to the second Teacher Disk, then press RETURN. The Update operation will repeat in the same way. Continue until all your Teacher Disks have been updated.

The next prompt will ask you to replace the backup Daily Disk. The Program removes from Daily Disk One all the data which was successfully transferred to the Teacher disks. Now it needs to make Daily Two an exact copy of Daily One, so it is a usable backup. However, we recommend that you use a set of disks for the Daily Disk 2, perhaps one for every day of the week. This way, if the Teacher Disks have a problem, you will be able to run the Daily Update again with an older set of Teacher disks, and the corresponding Daily disks. To clarify, use the same Daily Disk One every day, but use a different Daily Disk Two each day of the week. If you do this, then when the Daily Update requests the backup Daily Disk, you should use the Daily disk which will be used henceforth (tomorrow, probably), NOT the Daily Disk Two that you were using today.

Label your Daily Disks clearly (if you are using one for every day of the week--label them with the day). When the last Teacher Disk has been updated, the bell will sound again and the prompt will be:

PLEASE REMOVE THE TEACHER DISK, AND  
PLACE /LIB1/ IN DRIVE1,  
AND PLACE TOMORROW'S /LIB2/ IN DRIVE2.  
THEN PRESS RETURN.

>

### **CAUTION! DO NOT PUT TODAY'S BACKUP /LIB2/ IN DRIVE 2!**

To do so will erase the data on it, and you will need that backup data if you have to run today's Daily Update again as mentioned above. As stated above, put your next /LIB2/ in Drive 2. This is the backup /LIB2/ that you will use tomorrow, or until the next Daily Update. /LIB1/ should still be in Drive 1.

### **LEFTOVERS**

When you press RETURN this time, any "leftovers" will appear on the screen. Leftovers are transactions for which the Update Program can find no match in any Teacher File. The screen will show them in this order:

FINES LEFT:  
CHECKOUTS LEFT:  
CHECKINS LEFT:  
NEW STUDENTS LEFT:

There are several reasons that leftovers can occur:

- A book was returned that had not been recorded in the computer as a checkout (a leftover Checkin).
- A book was checked out to a student whose ID number is no longer in any Teacher File (a leftover Checkout).
- A book was checked out to a student whose ID had the teacher code mistyped. In this case the Student should also be a leftover.
- A fine was collected from a student when there is no computer record of a fine owed by that student (a leftover Fine).

Leftovers are almost always due to errors made by an inexperienced staff. By printing out and looking closely at your leftovers each day, you will be able to pinpoint which periods of the day are causing problems and what part of the charging procedure is not clearly understood.

CHECKOUTS LEFT are the most serious since they represent books that have left the library identified by student ID numbers, but those numbers are not recognized by the computer as belonging to students in teachers' classes.

Here are some of the causes for CHECKOUTS LEFT and some remedies:

1. Student has checked out of school and returned or has given his inactive ID card to someone else.

Remedy:

--1st choice: make sure your staff checks the picture on student IDs before checking out books. This will prevent students from using lost or stolen IDs.

--2nd choice: Leave checked out students on the Teacher Disk. They can be assigned to a "teacher" with the code ZZZ1. If a book is ever checked out to a student in the ZZZ1 class, you know something is wrong. If you want an instant warning, check out the book, "Left," copy \_\_, to that ID number and make it immediately overdue. If someone tries to use that ID card, the screen will flash the warning, "STUDENT IS ON THE OVERDUE LIST, PRESS 'Y' TO OVERRIDE". If you use this method, be sure that each "Left" book has a different copy number. Otherwise a more recent "Left" will cancel the checkout of a previous one with the same copy number. The problem with this option is that if you have many students who leave, or lose their IDs The Daily Update will still have to process them, and the Daily Update will take longer. Also, you must make sure that this file does not get too large (no more than 40-50 students or so), or the computer will get an error because it has run out of memory trying to process such a large file. If the file does become too large, simply create another file, and name it ZZZ2, or ZZZ3.

2. A number of books checked out to students in the *same class* appear as CHECKOUTS LEFT after the DAILY UPDATE. This can be the result of a damaged teacher file.

Remedy:

--Examine the file by using the SEARCH A FILE option. Compare the list of student names with the list made up of the photocopy set of student bar-codes in your class notebook. If you suspect some names are missing, print the file, then put in one of your teacher backup disks and compare the two files, name by name. If names are missing from the Teacher Disk that are on the backup Teacher Disk, you can recover with the following steps:

- A. Copy the teacher file in question from the most recent set of Teacher Disks on which the file appears to be complete. Using DOS, copy the file onto the Teacher Disk in question.
- B. Copy today's Daily Disk 2, and run the Daily Update again from the beginning.
3. A book or books are checked out to a student or students in one class. This may be because the teacher code was mis-typed on the ID, or because the Teacher File was not added to the Teacher Disk.

Remedy:

- Verify the teacher codes on the student ID's using the search function in the Program (search the file STID). If they are correct, verify that the teacher file exists using the search function on the teacher disk (search the teacher file.)

FINES LEFT and CHECKINS LEFT are not problems you have to worry about. Their purpose is to give you information about how accurately your staff is functioning. If a fine is left it means that someone collected a fine that did not appear on the Overdue List. The fine could even have been owed, but if it did not appear in the computer as owed, then it did not need to be put into the computer as being paid.

CHECKINS LEFT in small numbers are not a serious concern. At least you got the books back. More than just an occasional one shows that something isn't working right:

- A desk worker may be letting some books be checked out without a verified read on the screen. The book comes back because of the due date stamped in it, but it was never checked out by the computer in the first place.
- A book or books were "borrowed" without being checked out. If the book reappears on the circulation desk and is checked in, it will show up as a Checkin Left.
- A book or books may be getting checked in and out the same day. To prevent this, put books which are checked in on the book truck rather than on the shelf.

If a checkin or fine is left over for more than one day, simply delete it from the CKI file on /LIB1/.

NEW STUDENTS LEFT can be due either to typing errors or incorrect Teacher Code information. If a new student says he/she is in Mr. Brown's Period 4 class, and Mr. Brown does not have a Period 4 class, that name becomes a new student left. To avoid this and other errors which might not show up so quickly, insist on seeing a program card before typing a student ID bar-code, or ask the student to have the teacher send him/her to the library with a pass containing the Teacher's signature.

New Students Left errors must be corrected before those students check out any books, or you will have Checkouts Left errors also:

1. Look at the student ID label, or at the copy if the label has already been put on the student's ID card. In almost every case you will be able to see the error.
2. Use Search a File with /LIB1/ and ask for the file STID (STudent ID).
3. Use the cursor controls to find the exact place of the error and type over with the correct information.
4. Press BREAK to exit, and then RETURN to save the change to the disk.
5. On the next Daily Update the student will be added to the correct teacher file.  
NOTE: If you do not make the same change on /LIB1/, and do not use the Duplicate Daily Disk option, the change will not be reflected on your backup. You may wish to live with this, but be aware that this name may crop up again if other errors cause you to use the backup.

At the end of the leftovers, this screen message will appear:

FINES LEFT:  
CHECKOUTS LEFT:  
CHECKINS LEFT:  
GONE WITH THE WIND MITCHELL 03 09.57  
NEW STUDENTS LEFT:

THE DAILY UPDATE IS FINISHED.  
PRESS RETURN TO RUN THE FILER, OR JUST  
TURN OFF THE COMPUTER.

(The above screen is slightly different on the ATARI. The last line is just a reminder to back up the Teacher disks.)

In order to make available more computer memory to run the Daily Update most efficiently, all of the unneeded parts of the Program have been deleted from the computer's memory. If you must do any additional work with the Program at this point, such as printing the Overdue List, then you must use the Program Disk to re-load the Program into the computer.

On the Apple only: simply press RETURN and the computer will automatically run the Filer program, which you will use to back up your Teacher disks. If you wish to run the program immediately, simply press Control-Open Apple-Reset.

### **MAKING BACKUP TEACHER DISKS**

Since the Program is no longer in the computer, this is a good opportunity to make the backup copies of your Teacher Disks, using the Filer (DOS on the Atari). Backup disks are an essential part of this Program's design to safeguard the data in your circulation records.

We suggest that you back up your Teacher Disks on a weekly cycle using five sets of backups, one set for each day of the week. If you use this plan and keep one set of backup disks in a place separate from the library, you will be able to recover from even the loss of an entire disk with your circulation data intact.

Be sure to label each set with the day they are to be used so that the disks in use (that are being written over) are always the ones holding the least recent data.

We recommend a different set of backup disks for each weekday partly so that you have multiple levels of backups should the unthinkable happen. It is very difficult to make the same mistake five times! However, there is another reason. When you are hurried, and are making the backups after the Daily Update, there is some possibility that you will get the order mixed up and use the wrong set of disks for the backup. The chance of this is reduced greatly if there is a simple scheme for choosing the backup to use. That is why we recommend having the Backups labeled with the days of the week. Then on Thursday, for example, you would use the Thursday backup disks.

## **POSSIBLE PROBLEMS WITH THE DAILY UPDATE**

If the Daily Update should stop before it completes all of the Teacher Disks, it is important to follow the procedure described below so that no circulation data is lost.

You may become aware of a problem in one of several ways:

1. The disk drives may stop and the screen shows the file name which was the last one accessed instead of returning to the prompt which tells you to insert the next Teacher Disk.
2. One or both disk drives keep spinning, but nothing new happens on the screen.
3. The screen gives you an error message such as "THE DISK IN DRIVE 2 IS BAD" or "DRIVE 1 IS BAD. REPLACE IT AND START OVER."

All three symptoms result from an error encountered on the Disks.

## **RECOVERING FROM AN UPDATE ERROR**

If the Update stops at any point, even near the end of updating your last Teacher Disk, this entire recovery procedure must be followed. Otherwise one or more of your files such as Checkout, Checkin, Overdue List, or Fines Paid may have errors.

1. Remove /LIB1/ from Drive One and the Teacher Disk from Drive Two.
2. Make a copy of t/LIB1/ using /LIB2/ (the backup) as the source and a new, formatted disk as the destination using either the Filer (DOS) or the Duplicate Daily Disk option.
3. Go to the most recent backups (yesterday's) of your Teacher Disks and make a complete set of copies. This must be done to prevent incrementing the fines, even though some of your Teacher Disks may have been updated successfully.
4. Reload the Program, go to the File Management Menu, and begin the Daily Update again from the beginning.

If the problem was due to a defective disk that either could not be read or could not be written to, starting with new copies will solve it.

If the problem persists, and especially if the Update stops on a different file than before, the problem is more likely due to a defective disk drive. Substitute a different drive, if one is available, and begin the recovery process again by making new copies of the Daily Backup and Teacher Disks.

**WARNING**

**NEVER, UNDER ANY CIRCUMSTANCES, USE /LIB2/ OR BACKUP  
TEACHER DISKS TO RUN THE PROGRAM OR THE DAILY UPDATE  
WITHOUT FIRST COPYING THEM.**

To do so would be to risk the destruction of your entire data base and all of your circulation records. If you have a problem caused by a defective disk drive, that drive can wipe out the records on your disks. If you always copy your backups first and then use only the copies, you will never have to worry about irretrievable loss of data.

All copies of backup disks should be made using the Filer (DOS) (except when you use the Duplicate /LIB1/ or /LIB2/ Option in the File Management Menu). Refer to Appendix C if you are unfamiliar with the method for duplicating disks.

**CHAPTER EIGHT**  
**SEARCHING AND EDITING TEACHER FILES**

When you use the **SEARCH A FILE** option to bring up a Teacher File on the screen, a student record in that file can then be edited. You can check in a book by simply deleting it from the file, or you can change the fine if you discover the book has been lost, for example. If a student has changed classes, the student's entire record can be moved to a different Teacher File. You can also change the spelling of a student's name, in case of an error. In fact, the only thing you should not change is the student ID number.

To look at a Teacher File, go to the File Management Menu by using your password from the Main Menu. Put the Teacher Disk that has the file you wish to examine in Drive 2. When you choose Option 3, **SEARCH A FILE**, you will see the prompt

WHICH FILE?

/TCH1/ADA1  
IS THAT CORRECT?

(On the Atari, it says D2:ADA1.) After you press **Y** and **RETURN**, Drive 2 will operate and the first ten or twelve student names, with any books they have checked out, will appear on the screen. To see the rest of the file, scroll the screen by pressing the **CTRL** key and the **down arrow**.

## CHAPTER 8--SEARCHING AND EDITING TEACHER FILES

To exit from the **SEARCH A FILE** option, press Control-Q on the Apple, BREAK on the Atari. Now you will see this prompt:

SHALL I SAVE YOUR CHANGES?

If you made any changes, you should save them by pressing Y, then RETURN. If you did not make any changes, or you made a mistake you do not want recorded, press N and Return (BREAK on the Atari) again. In either case, you will be returned to the WHICH FILE? prompt. Press Control-Q and Return or BREAK one more time to be returned to the FILE MANAGEMENT Menu.

### ***EDITING A STUDENT RECORD***

Let's say a student has lost and paid for a book. You need to make this change in the file for Mrs. Adams' period 1 class: Remove GONE WITH THE WIND from Rachel Brown's record. From the File Management Menu again select Option 3, SEARCH A FILE, and type ADA1 in response to the WHICH FILE? prompt. After you bring the file up on the screen, scroll the names upward by using the down arrow until you have the cursor on BROWN, RACHEL. The top four lines of your screen would look like this:

BROWN, RACHEL	ADA 1 8 0
072	
0072 GONE WITH THE WIND	MICHELL
03 09 . 45 10/05/84	

Move the cursor down two more lines so that it is over the student ID number preceding the title of the book. Press the **DELETE** key. (On the Atari, hold down Shift while you press Delete.) The book title will disappear from the screen. At this point the record on the disk has not been changed, however. To save the change to the disk file, press Control-Q (Break on the Atari), and then, in response to the prompt, type "Y" and press RETURN. The disk drive will operate as the change is saved.

For another example, suppose that a student has reported a book as lost, but has not yet paid for it. You want to stop the fine from incrementing, but keep in the Teacher File the amount the student owes for the book. Call up the file as before and position the cursor over the first character on the line with the book title. This is actually the student ID and will have the same significant digits as the number directly above it.

*On the Apple:* Hold down the Control Key while you press "I" (for check In). Now when the Overdue List is printed, the book's name, price and any fine owed will be followed by an "R" telling you that the student does not owe a book, only a fine.

*On the Atari:* Press the inverse video key (**Atari key**) on the lower right-hand corner of the keyboard, then type over the first number of the Student ID number so that it appears in inverse video. The book will appear in *Italic type* telling you the book no longer must be returned.

To change the spelling of a student's name or the amount of a fine, position the cursor over the characters you wish to change, and simply type over with the desired characters.

To delete a fine, without deleting the book, position the cursor over the first character of the fine which follows the date due, then type a **RETURN** followed by spaces over the rest of the fine (you'll notice that the RETURN key does not cause a return, but prints a special character).

To add a fine, type the amount of the fine immediately (no spaces) after the last character of the date due. This must be followed by a **RETURN**.

For all of these changes, the record of the file on the Teacher Disk must be rewritten to preserve the changes. Press **CONTROL-Q** or **BREAK** to exit the file and the screen prompt becomes:

SHALL I SAVE YOUR CHANGES?

If you type "Y" and press **RETURN** the disk drive will operate as it rewrites the file. If you do not type Y, your changes will be lost and the **WHICH FILE?** prompt will appear again. After you make changes, you should back up the disk, since the changes are only made on one disk.

## **MOVING A STUDENT RECORD**

If a student changes to another teacher's class, here is the procedure for changing his/her record from the previous teacher's file to the new teacher's file:

1. In Drive 2 insert the teacher disk which has the file containing the student's name. If the student's new teacher is on a different disk, that disk should be in Drive 1.
2. From the File Management Menu select Option 3, SEARCH A FILE, and bring up the file of the student's previous teacher.
3. Using the up/down arrow keys (use Ctrl if you have an Atari), position the cursor on the student's name. Then with the right arrow, move the cursor on top of the first letter in the teacher code.
4. Type over the old teacher code with the one for the new teacher. Be sure to designate the period number.
5. Press the ESCape key. This will cause one or both of the disk drives to operate as the student record is written to the file of the new teacher. The student's name and titles of books checked out will disappear from the screen. The record has been deleted from the file in memory, but the disk file has not been updated yet.
6. Exit as usual. Now you will see this prompt:

SHALL I SAVE YOUR CHANGES?

Since you wish to delete the student from this teacher's file, you should type "Y" and press RETURN. The disk drive will operate and the student's name and any books checked out to that student will be deleted from the original teacher file. Now you are again given the prompt:

WHICH FILE?

To verify that the record has been moved, bring up the file of the student's new teacher. (On the Atari, if the new teacher's file is on the disk in Drive 1, move that disk to Drive 2 first.) Scroll down to the end of the file using the down arrow key and there you will find the record of the student you moved.

You may make several changes in a teacher file before saving these changes back to the disk. If you wish to leave a file without recording any changes, exit by typing "N" in response to the prompt, and you will be returned to the WHICH FILE? prompt.

You may then search another file or return to the FILE MANAGEMENT Menu by pressing the Control-Q or BREAK key once again.

### ***CLEARING THE RECORD OF A LEAVING STUDENT***

When a student checks out of school during the semester, with the Automated Library II Program you no longer have to depend on his/her truthfulness to clear the library record. If you search the teacher file before signing the clearance card, you will not have any unpleasant surprises after the student has left the school.

After a student has left the school, the librarian has several options relating to his/her file record.

1. Leave the student's name in the file and do nothing.
2. Move the student's record to a "ZZZ1" Teacher File. If anyone attempts to use the old ID number, the book charged will be assigned to this file and the librarian will be alerted. For example, the student may reenter and use his ID card again.
3. You can, of course, delete the student's record completely.

The option you choose is dependent on how many students leave and enter school in a year. It is best to keep the student's record on the disk, because you know which card is being used to check out books. The problem is that this may overburden the computer if a substantial number of students leave or enter.

### ***PRINTING A TEACHER FILE***

You may wish, occasionally, to print a teacher file. For example, after a class visit to the library, the teacher might like to have a list of the books checked out. To achieve this, choose Option 6, PRINT A FILE. You will be asked

WHICH FILE?

## CHAPTER 8--SEARCHING AND EDITING TEACHER FILES

Type the name of the file you wish to have printed. An example for the Apple might be **/TCH2/JON3** for Jones' 3rd period class on teacher disk 2. (On the Atari the same file would be **D2:JON3**.) Be sure the disk is in the disk drive, and the printer is turned on, as the file will immediately begin printing.

The ability to search, edit, and print files gives the librarian complete control over the student records which the computer has entered into the data base. After the charging desk procedures are running smoothly, there will only rarely be a need for printing files. In the beginning stages of automation, however, it should give the librarian confidence to know that this system makes it possible to locate and correct human error.

## CHAPTER NINE CHANGING STUDENTS TO NEW CLASSES

There are two situations where a student must be changed to a different class from the one the Student ID Bar-Code was originally printed for:

1. If the student has a program change out of his/her library records class.
2. At the mid-year change of classes.

Program changes during a semester are simple to achieve by searching and editing the teacher file of the student's original class. This procedure to move a student to a new class is explained in detail in Chapter Eight and are repeated below. The student ID bar-code does not have to be re-printed since the Program matches the student to the correct teacher file by ID number only, and the ID number has been moved to a new teacher file.

### **MOVING A STUDENT RECORD**

If a student changes to another teacher's class, here is the procedure for changing his/her record from the previous teacher's file to the new teacher's file:

1. In Drive 2 insert the teacher disk which has the file containing the student's name. If the student's new teacher is on a different disk, that disk should be in Drive 1.
2. From the File Management Menu select Option 3, SEARCH A FILE, and bring up the file of the student's previous teacher.
3. Using the up/down arrow keys (use Ctrl if you have an Atari), position the cursor on the student's name. Then with the right arrow, move the cursor on top of the first letter in the teacher code.
4. Type over the old teacher code with the one for the new teacher. Be sure to designate the period number.
5. Press the ESCape key. This will cause one or both of the disk drives to operate as the student record is written to the file of the new teacher. The student's name and titles of books checked out will disappear from the screen. The record has been deleted from the file in memory, but the disk file has not been updated yet.
6. Exit as usual. Now you will see this prompt:

SHALL I SAVE YOUR CHANGES?

Since you wish to delete the student from this teacher's file, you should type "Y" and press RETURN. The disk drive will operate and the student's name and any books checked out to that student will be deleted from the original teacher file. When a student record is moved to a different teacher file, the human-readable characters on the bar-code ID will have the old teacher code, but this will not affect the operation of the Program.

Program changes resulting from the start of a new semester are also best handled by changing each student's teacher code as it is recorded on the Teacher Disks. This will not only make it unnecessary to re-type all of the student IDs, but will also eliminate the problem of having to distinguish between bar-code IDs of two different semesters.

It will be necessary to get new class lists from the teachers as soon as the semester settles down enough for them to be accurate. In the meantime, however, circulation can safely continue right through the semester change, since you will always be able to locate a student once the Teacher Files have been edited to reflect the new classes.

You may want to work out your own method for changing the Teacher Files. One procedure that has worked well is to bring up the each file on Teacher Disk 1 by using the SEARCH A FILE option, then, with all of the student programs at hand, to change the Teacher Codes for each of the students in that file as they come up on the lists. You can safely change one class before you press BREAK and RETURN to record the changes to the disks. Remember the general rule of using computers--Save your work often.

#### **TYPING NEW STUDENT ID BAR-CODES**

With the beginning of a new school year, new student ID bar-codes will have to be typed for the new ID cards. Unless you are too close to the 9999 limit to get through another year, continue on with the same sequence of ID numbers rather than beginning again with 0001. This will prevent two ID numbers from being the same in case a bar-code ID from last year should slip through. There are two ways to accomplish this. Either continue to use the same /LIB1/ disk which will assign the next ID number automatically, or look at the NEXTNUM file on the old /LIB1/ with the SEARCH A FILE option. The NEXTNUM file contains the next student ID that the computer will assign.

CHAPTER 9--CHANGING STUDENTS TO NEW CLASSES

It may be helpful to mark the new student ID bar-codes in some way so that they can be instantly distinguished from last year's IDs. One librarian has suggested a small rubber stamp with a code word that could be used to mark one end of the bar-code ID label. Alternatively, you can draw down the right side of the IDs with a colored felt pen with a different color for every year. This can be done before the IDs are peeled off the backing paper, and so is very quick to do. Be careful to draw well away from the bar-code, to allow room to start and stop the wand.

Remember to make photocopies of the sheets of student ID labels before they are distributed to students. These photocopies can be read by the bar-code reader and will provide a backup for students who have forgotten or lost their ID cards.

## CHAPTER TEN CREATING BIBLIOGRAPHIES

The AUTOMATED LIBRARY II Program provides you with an efficient method for creating, printing, and storing bibliographies. You will also be able to edit and update your bibliography files to delete lost or outdated books and to add new ones.

### **MAKING A BIBLIOGRAPHY FILE**

A Bibliography can be created on any disk except a Teacher disk. For example, you may wish to create bibliographies on a special disk which you label "BIBLIODISK", or you may wish to place several common bibliographies on /LIB2/ so that you can print them during the day without changing diskettes.

From the library shelves, select the books you want listed and bring them to the computer. Load the AUTOMATED LIBRARY II Program into the computer and use your password to get to the File Management Menu. Select Option 4, CREATE A BIBLIOGRAPHY, and you will see this prompt:

PLEASE PUT THE BIBLIODISK IN D2.  
THEN TYPE THE FILE NAME TO SAVE TO.

Put your disk in the drive, and type any name you want to call the file. If you're using an Apple, the disk volume name can be anything you desire, but remember to write the name on the disk so you can remember it!

File names on the Bibliodisk must follow the same rules as any other disk files. These are explained in detail in your Disk Operating System (DOS) Manual.

On the Atari:

1. File names can be up to a maximum of eight letters and numbers, a period, then an extension of up to three more letters or numbers. Example:  
**FILENAME.EXT**
2. They must begin with a letter, and all letters must be upper case.
3. No spaces are permitted, and no characters other than letters and numbers and one period.

**On the Apple:**

1. Path names must be /volume name/file name. The file name can be up to a maximum of fifteen letters and numbers including periods. If you have subdirectories (don't worry if you don't know what this means; you don't need it) you can use the entire pathname. Example:  
**/BIBLIODISK/MYSTORIES**
2. They must begin with a letter, and all letters must be upper case.
3. No spaces are permitted, and no characters other than letters, numbers and periods.

**PLEASE TYPE A BIBLIOGRAPHY HEADING,  
THEN PRESS RETURN.**

(Only on the Apple.) The Program will save a title for the Bibliography, and print it out each time you print the Bibliography. Type in a title, and press Return.

**READ THE BOOK TITLES WITH THE WAND.  
PRESS CONTROL Q TO QUIT.**

Plug in the reader-wand and arrange the books in the order that you wish them to be printed on the bibliography. This is important since the program will not sort or alphabetize them for you.

Read the book ID bar-codes just as if you were checking in the books. From time to time Drive 2 will operate as the book data is written to the disk file. Exit the normal way.

**PRINTING A BIBLIOGRAPHY**

When you are ready to print your bibliography, place the disk in Drive 2 and check to see that the printer is ready. In the File Management Menu, go to Option 6, PRINT A FILE. After you press RETURN you will see the prompt,

**WHICH FILE?**

Type the filename you gave to this particular bibliography. As soon as you press RETURN again, the printer will begin to print out your file.

### **EDITING A BIBLIOGRAPHY FILE**

To delete books from a bibliography file, you must go to the SEARCH A FILE Option from the File Management Menu. Again place your Bibliodisk in Drive 2 and after the prompt,

**WHICH FILE?**

type in the filename of the file you wish to edit. After you verify the filename and press RETURN, the beginning of the file will appear on your screen with the cursor in the upper left corner.

To delete a book, use the arrow keys to position the cursor over the beginning of the first line of the book title. Press the DELETE key (use SHIFT-DELETE on the Atari). The title will disappear from your screen. Exit the normal way, then type 'Y' and RETURN to write the file to the disk without the deleted title.

To add a title to a bibliography file, Select Option 4, CREATE A BIBLIOGRAPHY. When the prompt, WHICH FILE? appears on the screen, type the name of the file you wish to add to. Then just read the titles of the books from the bar-codes using the bar-code wand. These books will be appended to the original file.

If you wish to re-order the books simply use the SEARCH A FILE option, and DELETE the books and re-insert them in the correct order as described in Chapter 8- Searching and Editing Teacher Files. Of course, you can also simply type over any information in the file if you wish to make changes.

## INVENTORY

Inventory is taken using the bibliography function of the Automated Library II. In order to take inventory effectively, every book in the library should be bar-coded, or you should be ready to bar-code the few remaining books without bar-code.

Basically, inventory is taken initially by creating bibliographies of each section in the library. These bibliographies will serve as a shelf list which can help compare inventory with a previous shelf list. Subsequently, future inventories are performed by creating new bibliographies of the same sections of the library, and by using the compare inventory function.

The Compare Inventory function will ask you for the names of the two bibliography files, and then will compare all the books in one with all the books in the other. The program will then print out the title "MISSING BOOKS" followed by all the books which appear in the older file which are not in the new one (presumably because they are lost). Following that will be the title "NEW BOOKS" followed by a list of all the books which are in the newer file and not in the old (because they were purchased since the last inventory).

Bibliographies which are created for the purpose of taking inventory should be on separate disks, since the entire inventory of a library will take up several floppy diskettes. Also you should make copies of each diskette since you will be storing them for up to a year for use in the next inventory. Finally, Bibliography files should be no more than 500 books maximum, since that is all the information the computer can retain in memory at one time.

Use your password to go to the File Management Menu, and select option 9, COMPARE INVENTORY. You will see the following prompt:

COMPARE INVENTORIES.  
PLEASE TYPE THE PATHNAME OF THE OLD FILE.

As the program requests, type in the pathname of the old file, that is the file which represents the older version of the shelflist for the section you wish to compare. Use the whole pathname, e.g. /INVENTORY85/SECTION1. Press RETURN.

PLEASE MAKE SURE THE PRINTER IS READY,  
AND TYPE A HEADING FOR THE INVENTORY.

As soon as you press RETURN, the program will print the heading, so check that the printer is on and ready. Then type the heading, and press RETURN. You will then be asked for the name of the new file:

PLEASE TYPE A PATHNAME FOR THE NEW FILE.

Type the pathname of the new file, followed by RETURN. The computer will then read in both the old and new files, and print a list of the newly purchased books (under the heading NEW BOOKS), followed by a list of the books in the old file which have been lost (under the heading LOST BOOKS).

## APPENDIX A SOLVING PROBLEMS

Any system which is sophisticated and complex provides the opportunity for problems. Also, any problem becomes more critical the greater your dependency on the system. We have worked very hard to limit the apparent complexity of the system, which should help you avoid some problems. Problems will occur, however, and this section is intended to help you work through them.

The most important thing to remember is that you have backup data,  
and that you haven't lost anything yet. If you approach the problem calmly and methodically you will recover and things will once again be running smoothly.

### **WHY THE PROGRAM REPORTS PROBLEMS TO YOU**

If you are using floppy-disks, most of the problems you will have will be disk problems. The AUTOMATED LIBRARY II is quite unforgiving of disk errors. There is a good reason for this. If the Program detected a disk error and then ignored the problem and proceeded anyway, a book or perhaps several could be lost forever because the computer could not read the disk and no one would know. Therefore, whenever a disk error is encountered, you are warned that it has occurred and requested to take some action. The Program always makes backup data of your Daily Disk to protect your records against such losses (the LIB2 disk). You should also be keeping at least two (although we recommend five) additional sets of backup data by cycling /LIB2/ through the backup disks. That is, at the end of each daily update, use a new /LIB2/ and then use that /LIB2/ for the following day. Do this each day of the week, and then use the first one again on Monday. Then you will have a /LIB2/ for each day of the week.

### **/LIB1/ or /LIB2/ ERROR**

During normal daily operations you may get an error on /LIB1/ or /LIB2/ while you are checking books in or out, or doing some other operation with just those two disks. When this occurs a message appears on the screen informing you of the error and on which disk it occurred. Make a note of this, but continue with the work you are doing until there is a break in the work flow (lunch, no class, etc.)

The program varies somewhat here between computers.

On the Atari, disk copying is always from drive 1 to drive 2. This is done so that you will always be in the habit of copying one way, and you won't accidentally copy a blank disk to a good one. When you have a break in your work, go to the File Management Menu and choose Option 7, DUPLICATE DAILY DISKS. If the error occurred on the backup Daily Disk 2, simply put a new disk in Drive 2 and press RETURN. The program will format the disk in Drive 2, and then proceed to make a copy of the files on Daily 1 and write those files to the new Daily 2.

If the error occurred on Daily Disk 1, remove that disk and set it aside. Take the backup Daily Disk from Drive 2 and put it in Drive 1 so that it becomes your new Daily 1 disk. Now put a new disk in Drive 2. Again when you press RETURN the program will format the disk in Drive 2 and copy the data from the files on the disk in the Drive 1 to the new backup disk.

**PLEASE NOTE:** It is a good idea to put a write protect tab on the disk you are copying from to insure that you do not destroy your backup disk. This is a highly recommended habit to get into.

On the Apple, ProDOS does not distinguish between disk drives, so you can copy from and to any drive. However, protection is afforded by the volume names. You must type in the source and destination drives for the program. If you type 1,2 for example, the program will copy files from the volume /LIB1/ to the volume /LIB2/, regardless of which drives they are in. On the Apple, the disk must already be formatted. It is a good idea to have spare formatted diskettes on hand, but if you do not, simply select option 8, exit to Filer. When you get the prompt, insert /LIB1/ and press RETURN. Use the Filer to format and name a new daily disk, then quit and re-enter The Automated Library II.

Select option 7 , Duplicate Daily disks. You will be presented with this screen:

TYPE THE SOURCE, DESTINATION  
1,2 FOR LIB1 -> LIB2  
OR 2,1 FOR LIB2 -> LIB1.  
PUT BOTH DISKS IN THE DRIVES,  
THEN PRESS RETURN.

>

Follow the prompt, and the computer will duplicate the important files on the Daily disks (the important files are CKI, CKO, STID, and FINE; the other files can be created at the next Daily Update.) This will not copy ProDOS, the program, or any of the other files you have on /LIB1/ or any Bibliographies on /LIB2/. The best way to copy these is to use the file copy option in the Filer.

At a convenient time you can reformat the disk that gave the error message and use it again as backup Daily 2. If an error occurs again with that same disk, it is best to retire it to less critical use than in this program.

If you continue to get errors from the same disk drive in spite of using new disks, you may have a faulty disk drive. Note (and mark) which drive is causing the problem and try switching the drive numbers, changing Drive 1 to Drive 2 and vice versa. If the same drive continues to have errors, it should be taken in for service.

### **THE WRONG DISK IS IN THE DISK DRIVE.**

This prompt appears usually when you try to check out or in a book and a Teacher disk is in the disk drive. However, you may be checking out a book, and the correct disk is in the drive. The computer has detected a disk error, but in fact the computer has misinterpreted the error. For example, when you begin to check books out or in, if a disk error occurs immediately, the computer assumes that the wrong disk is in the drive and therefore prompts you to put in the correct one. If the correct disk is already in the drive, it means that the disk or the disk drive has had an error.

First try exiting to the main menu, and then start over as if nothing had happened. (On the Atari, check all the I/O cords between the disks and the computer to be sure they are firmly plugged in.)

If the problem persists, replace the disk with a new one and use the DUPLICATE DAILY DISK Option as described in the previous section. Finally, if you continue to get the same error, then one of the disk drives is probably not working correctly and should be serviced.

### **DAILY UPDATE DISK ERROR**

You cannot recover from this error by continuing with the Daily Update. To do so would very likely cause loss of data from the data base. Therefore, the following procedure must be used:

1. Stop the update. (Turn off or RESET the computer.)
2. Copy the Teacher Disks from the previous day and use these new copies for your Teacher Disks.
3. Copy Daily Disk 2 and use the copy in place of Daily Disk 1.
4. Run the Daily Update again from the beginning.

If an error occurs again, then copy the teacher disks and the Daily 2 backup disk from two days previous and use these copies to run the Daily Update again. This will give you an error-free copy of yesterday's data. To get today's transaction data, copy today's Daily 2 disk once more and run the Daily Update another time.

If the Daily Update still will not complete its run, it is very likely that you have a disk drive that requires service. Here are some emergency measures you can take:

- (On the Atari only: Reverse the drive numbers using Drive 2 as Drive 1. If one of your drives is badly off speed, it may work (temporarily) in the other position. To reverse the drives, refer to your owner's manual.)
- On the Apple: switch the diskettes, so the Daily disk is in drive 2 and the Teacher disk is in drive 1.
- Turn off the disk drives and try to run the Daily Update again, with new copies, in the morning when the drives are cool.

If everything you try does not get you a good disk to run the Daily Update, and if the Daily update always stops with the same Teacher file displayed on the screen, it is a good bet that the file shown on the screen is the one causing the problem. As a last resort, print out the data in that file, delete the file from the teacher disk, and then run the Daily Update without that file. If everything goes OK, you will have to re-enter all the data for that class again:

Make new Student ID's for the students.

Using option 3, Search a File, change the ID numbers to the same numbers as before.

Verify that all the books in that class get checked in, as they will not appear on the overdue list.

### **TEACHER DISKS OUT OF SEQUENCE FOR THE DAILY UPDATE**

On the Apple: The computer will reject the wrong teacher disk. Re-start the Daily Update.

On the Atari: If the teacher disks are updated out of order, the only harm will be that the Overdue List for the day will not be in alphabetical order. The problem will correct itself the next time the Daily Update is run. It could be corrected immediately, of course, but that would require copying all of the Teacher Disks and the Daily 2 and then running the Daily Update again.

### **BACKUP TEACHER DISKS WERE USED FOR THE DAILY UPDATE**

If by accident you have used last night's Teacher Backup Disks in place of the regular Teacher Disks, no damage has been done and you should complete the Daily Update with the set of backups. But remember, the regular Teacher Disks are now the only up-to-date set of backups that you have. Do not use them until you have made copies, or until you have backed up today's set.

**A BAR-CODE WILL NOT READ CORRECTLY**

If a book or student ID bar-code will not read correctly after several tries, check the following:

- Is the wand plugged in firmly? You should be able to see the tiny red light in the tip.
- Will the wand read other bar-codes that you know are good? If so, then look closely at the problem bar-code. It may be smudged, written on, too light, or printed too close to one end. Printing a new bar-code for that book or student should solve the problem.
- If there is no red light in the tip with the wand plugged in and the computer on, or if the wand will not read any bar-codes, then have the wand serviced at a Hewlett Packard Service Center.

**PLEASE REMEMBER:**

**THERE ARE NO CIRCUMSTANCES WHICH JUSTIFY THE USE OF THE BACKUP DISKS EXCEPT TO MAKE COPIES.** The possible loss of data is just as serious as if, under the previous system, vandals had broken into the library and destroyed all of the book check cards in the check out file. With the AUTOMATED LIBRARY II such data loss will never happen if the accuracy of the backup disks is always maintained through correct procedures.

**APPENDIX B  
SYSTEM FILE NAMES**

All files used by the Automated Library II are standard DOS format text files. We have used this format to make it easier for you to manipulate your data base. If you choose to use a word processor to change or edit the files, any word processor that uses standard DOS format should work.

A word of caution, however: Word processors are not especially conscientious about the integrity of your database. They do not prevent you from storing one teacher file on top of another, thereby losing an entire class of data. Also, if a word processor gets an error while reading or writing the disk, it may not tell you, and then you can lose partial files without any idea that it has happened. This occurred a few times during system testing of this program, and clearly indicated the need for the SEARCH A FILE option.

Since the files provided are in standard DOS format, you may want to write a BASIC program which manipulates the files in some way. You may write a program which prints the files differently, perhaps with a header, or perhaps which alphabetizes the files differently. Remember to use backup disks for these programs until you are sure they are completely error free!

Files on the Teacher Disks have been described in detail in preceding chapters. They are named with the three letters and one number that identifies the name and period of that class. These names are assigned by you when you use the CREATE A TEACHER FILE option. Remember that the file name is preceded by the volume name when using ProDOS.

Files on the Bibliodisk are named by you when you respond to the prompt in the CREATE A BIBLIOGRAPHY mode.

Files on the Daily Disk are created automatically by the program when it initializes the disks. Following is a list of the file names used in the AUTOMATED LIBRARY II with a brief description of the contents and purpose of each file. The parenthetical comments are there to remind you of the pathnames for the disks if you are using the Apple.

**/LIB1/ and /LIB2/**

**NEXTNUM:** The next student ID number which will be used by the program when printing student ID bar-codes. The number sequence begins whenever /LIB1/ is initialized. If it ever becomes necessary to restart with a new /LIB1/, the NEXTNUM can be determined by looking at this file on the last used /LIB1/.

**CKI:** This is the books-checked-in file. When the Daily Update is run, the books in this file on Daily disk 1 are deleted as matches are found for the titles in the Teacher Files. During the beginning stages of staff training you may want to look at this file to compare it with the books on the check-in book truck. After the Daily Update is run, you may want to print out this file to determine what is causing leftovers in it.

**CKO:** The books-checked-out file. During the Daily Update entries in this file also are deleted from Daily Disk 1 as matches are found in the Teacher Files for the student ID numbers attached to the titles checked out. When the Program is first installed, the librarian can check on the accuracy of the charging desk procedures by comparing the contents of this file with the book check cards in the check-out file. Also, leftovers in this file can be examined to find out why no match could be found for the student ID's in the Teacher Files.

**STID:** This file is where newly printed student ID numbers with their teacher codes are stored until they are added to the correct Teacher Files during the next Daily Update. Leftovers in this file are almost always caused by a teacher code for a non-existent period, or a misspelled teacher code. Use the SEARCH A FILE mode to make any needed corrections. The leftovers will then be correctly assigned during the next Daily Update.

**FINE:** Here you will find the file of students who have paid part of a fine. Entries in this file are added by using mode 5) FINE PAYMENT from the Main Menu. If the desk worker forgets to use this mode, or makes an error in the amount, the file can be edited in the usual way, using option 3, SEARCH A FILE.

**PASS:** This one line file stores your confidential password for accessing the File Management Menu. Looking at this file will not help you if you forget your password, however, since you cannot get to the SEARCH A FILE option without the password.

**/LIB1/ ONLY**

**SUMM:** This is the summary of the day's circulation broken down by Dewey number, fiction, Media and periodicals. To get a printed copy, use the PRINT A FILE option. Respond to the WHICH FILE? prompt with /LIB1/SUMM (or D1:SUMM on the Atari).

**OVER:** This is the daily Overdue List. It is normally printed through the use of Option 5 on the File Management Menu. This file cannot be edited with the SEARCH A FILE mode, as it is too long to fit in the Computer.

**OCHEK:** This file contains the ID numbers of students with overdue books. It is the source of data for the part of the Program that flashes a screen warning to prevent students with overdues from checking out additional books without the librarian's permission. There is no need to edit this file since it is updated every day from the Overdue List.

**On the Apple //e only:**

**ProDOS, LIB.SYSTEM, and DATA:** These are the system programs which you run when you load the program into the computer. DATA is used by the LIB.SYSTEM program to load only.

**FILER:** This program (licensed from Apple for distribution with The Automated Library II) is the Apple ProDOS file utility program which lets you copy files, list directories, or format disks. It is included on /LIB1/ so that you may easily move back and forth between the Automated Library II and Filer without swapping diskettes.

**DRIVERS:** This File consists of only two letters, which you provide the first time you load the program. The letters designate which printer and which printer interface you have. If you change printers or interfaces, or computers, simply delete DRIVERS from /LIB1/ using the Filer, and then re-load the program. You will be asked for your printer and interface codes, which will then be written to disk.

**APPENDIX C  
USING DOS, AND HARD DISKS**

**MAKING COPIES**

The making of backup disks for protection against loss of data is a daily routine for everyone who makes serious use of a computer. In the AUTOMATED LIBRARY II, a backup of the Daily Disk is made automatically while the Program is running. Backups of the Teacher disks, however, must be made each day after they are updated by the Daily Update.

Copies of disks should also be made whenever the Program detects a disk error and gives the operator an error message on the screen.

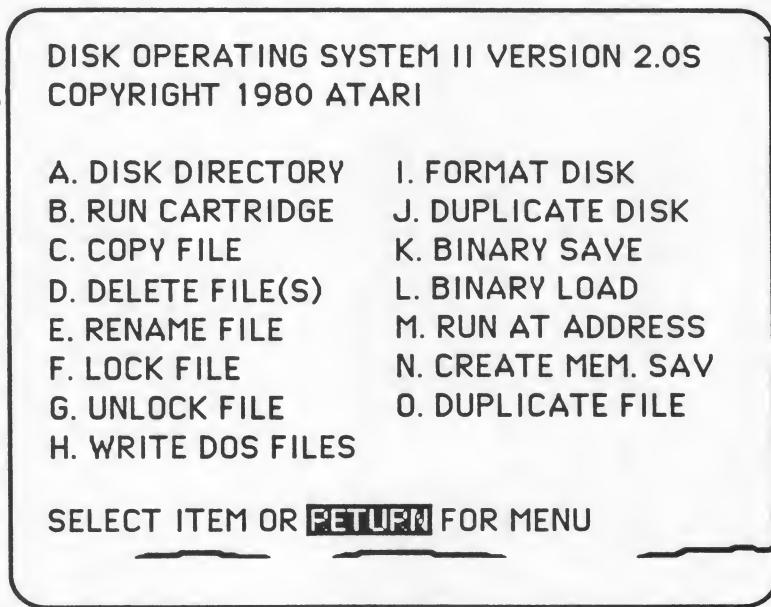
The method for duplicating disks is given in your DOS Manual and several other sources. It is summarized here for your convenience. Since Atari Dos and the ProDOS Filer programs are so different, the procedure is presented in separate sections. Please ignore the information which does not pertain.

**Atari users:**

We recommend that you use Atari DOS 2.0S with this program. If you have an Atari 1050 disk drive that came with Atari DOS 3.0, you can substitute DOS 2.0S for all functions except dual density. This program has not been tested with Atari dual density or with any other disk drive manufacturer's double density mode, and therefore none of these can be recommended.

**LOAD DOS**

To "boot" DOS, insert in Drive 1 a disk containing a copy of Atari DOS 2.0S. Basic should be removed from the system either by removing the Basic cartridge from an Atari 800 or 1200XL, or by holding down the Option key on an 800XL. Turn the computer off, wait 3 seconds, then turn it on again. In a few seconds the DOS menu will appear on the screen.



**FORMATTING DISKS**

If you are using new (previously unused) disks, they must be formatted before they can be used by the computer. Remove the DOS disk from Drive 1 and insert a new disk. Select item **I. FORMAT DISK**, press **RETURN**, and follow the prompts. If you are using disks that previously have been used in this program, it is not necessary to format them again before using them to make duplicates. (However, if the disk has caused a disk error message, reformatting that disk may correct the problem and permit the disk to be used again.) If you came here from Chapter 2, and you are just starting, format 3 more disks, and then go back to Chapter 2.

## **DUPLICATING DISKS**

With your formatted disks ready, select item J. DUPLICATE DISK and follow the screen prompts. The first prompt is:

DUP DISK-SOURCE, DEST DRIVES?

You type 1,2 and press RETURN. The prompt becomes:

INSERT BOTH DISKS, TYPE RETURN

**BE VERY CAREFUL HERE!** If you (or another operator) should have a momentary lapse of concentration and type 1,2 and then put the source disk in Drive 2 and the destination disk in Drive 1 and press RETURN, your source disk will be written over and you will lose any data on it. If it was your only backup disk, you would not be able to recover the lost data. *This happens with computers quite often.*

There is only one sure protection against such operator error: Insist that no disk be duplicated until a write-protect tab is placed over the write-protect notch of each source disk before it is duplicated. (The tab must be removed again after the disk is copied if that disk is to be used to record additional data.)

Of course, putting a write-protect tab on every disk before copying it is a nuisance and a rule that may be conveniently forgotten, so here are some other procedures which will help to avert disaster.

1. Make it a habit always to copy from Drive 1 to Drive 2.
2. Cycle your backup disks in such a way that there is always an additional backup copy that is never more than one day old.
3. If your disk drive has a write-protect switch on the front panel (e.g. the Indus drive), use it whenever backups are made.

## COPYING FILES

There may be occasions where a disk cannot be duplicated because it has damaged sectors in one or more files. You should use one of the backup disks to recover your data if this happens. However, if your back up disks aren't recent, or don't work, it may be possible to salvage most of the data on the disk by copying it to another disk, file by file. Use DOS item C. COPY FILE for this purpose. Press RETURN and you will see the prompt:

COPY-- FROM, TO?

The full response is **D1:FILENAME,D2:FILENAME**. You may omit D1: and the copy program will assume D1. You may also use the asterisk as a "wild card" in place of the file names to be copied. For example,

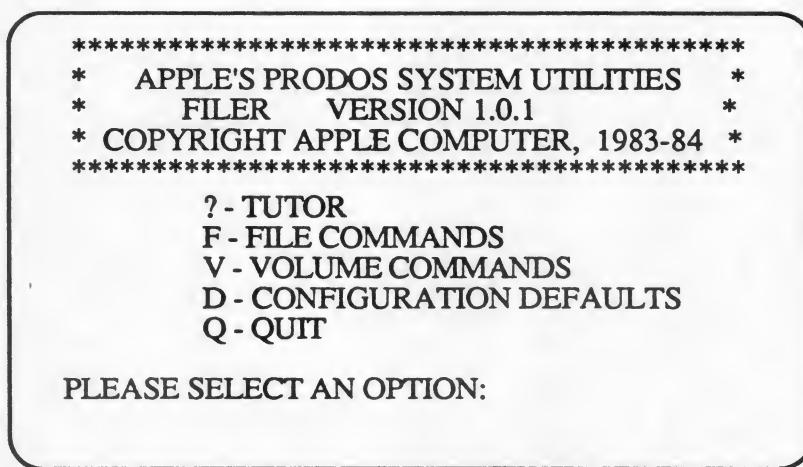
\*.\*,D2:

will copy all of the files, one at a time from the disk in Drive 1 to the disk in Drive 2. If you are notified of an error on one file, then that file may be copied from another backup disk, thereby completing your data base again.

**APPLE ProDOS:**

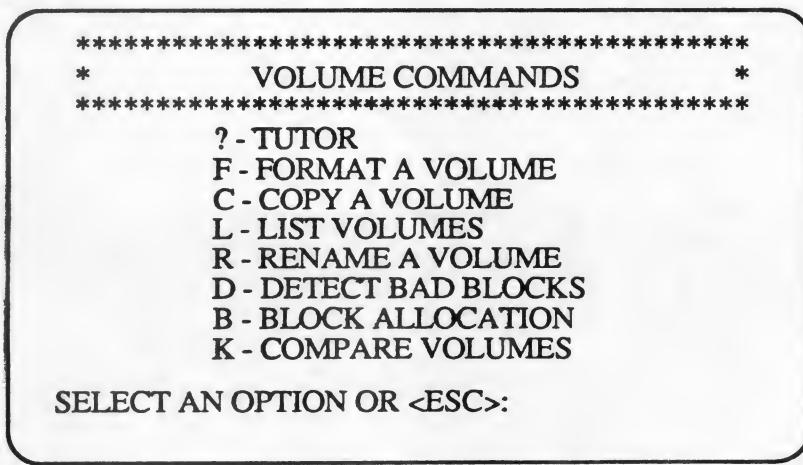
**LOAD DOS**

To "boot" DOS, insert in Drive 1 a disk containing a copy of ProDOS. Turn the computer off, then turn it on again. In a few seconds the BASIC prompt will appear on the screen. To run the Filer, type -FILER (type the dash). Alternatively, you can enter the Filer directly from the Automated Library II by selecting option 8 from the File Management menu, or by pressing Control-Q and Return when the Title Card is shown on the screen. You will be presented with this screen from the Filer:



**FORMATTING DISKS**

If you are using new (previously unused) disks, they must be formatted before they can be used by the computer. Remove the DOS disk from Drive 1 and insert a new disk. Press V for VOLUME COMMANDS and you will see this screen:



Type F for FORMAT A VOLUME, and you will be asked for the slot and drive numbers. Type the appropriate responses, and when asked for the NEW VOLUME NAME, type the volume name according to those listed in Chapter 2. The volume names are:

/LIB1  
/LIB2  
/TCH1  
/TCH2 (...if you need more than one teacher diskette, you can go up to /TCH9.)

When asked, insert the diskette you wish to have formatted, press RETURN, and the diskette will be formatted for you.

**When using a hard disk:** You must have a hard disk which can be partitioned into separate volumes, and you should format the volumes just as you would regular floppy disks. Also, these volumes must not be in a subdirectory, because the Automated Library II looks for volumes only at the highest level. You can have all the volumes mounted at once, after they are formatted. If you have a hard disk which can only support two volumes, make them /TCH1/ and /TCH2/. This will allow you to have your whole data base on the hard disk, and will give you the most benefit from the speed increase during the daily update. If your hard disk allows 3 or more mounted volumes, make one /LIB1/, but leave /LIB2/ as a floppy disk. The reason for this is that /LIB2/ is strictly used as a backup, and it should be separable from the rest of your data.

### **DUPLICATING DISKS**

**When using a hard disk:** remember that the reliability of a hard disk is much higher than a floppy, and so your data probably does not have to be backed up every day. You must decide how much you would lose if your hard disk did break, and accordingly, how often to back it up. The Filer will not copy a hard disk volume to a floppy disk, so you must use the file copy option instead. Select F, FILE COMMANDS from the first menu, and C, COPY FILES from the FILE COMMANDS menu. Your destination diskette must already be formatted. Type the entire pathname, using the equals sign (=) to tell the computer to copy all the files on the disk, e.g. from (/LIB1/=) to (/LIB1BACKUP/=).

**Floppy disks:** When you wish to back up an entire floppy disk, (for example the Teacher disks after a Daily update) you should use the COPY A VOLUME option in the volume commands menu. select C, COPY A VOLUME, and type the source slot and drive, and the destination source and drive. The destination diskette does not have to be formatted first, as the Filer will format the diskette anyway. Insert the disks and press RETURN, and the Filer will ask you if you want the new disk named the same as the source. Simply press RETURN and the disk will be copied exactly.

**BE VERY CAREFUL HERE!** If you (or another operator) should have a momentary lapse of concentration and mistake the source and destination drives, your source disk will be written over and you will lose any data on it. If it was your only backup disk, you would not be able to recover the lost data. *This happens with computers quite often.*

There is only one sure protection against such operator error: Insist that no disk be duplicated until a write-protect tab is placed over the write-protect notch of each source disk before it is duplicated. (The tab must be removed again after the disk is copied if that disk is to be used to record additional data.)

Of course, putting a write-protect tab on every disk before copying it is a nuisance and a rule that may be conveniently forgotten, so here are some other procedures which will help to avert disaster.

1. Make it a habit always to copy from Drive 1 to Drive 2.
2. Cycle your backup disks in such a way that there is always an additional backup copy that is never more than one day old.

### **COPYING FILES**

There may be occasions where a disk cannot be duplicated because it has damaged sectors in one or more files. You should use one of the backup disks to recover your data if this happens. However, if your back up disks aren't recent, or don't work, it may be possible to salvage most of the data on the disk by copying it to another disk, file by file. Select F, FILE COMMANDS from the first menu, and C, COPY FILES from the FILE COMMANDS menu. Your destination diskette must already be formatted. Type the entire pathname, using the equals sign (=) to tell the computer to copy all the files on the disk, e.g. from (/LIB1/= ) to (/LIB1BACKUP/=). If you are notified of an error on one file, then that file may be copied from another backup disk, thereby completing your data base again.

**When using a hard disk:**

You can copy the Automated Library II program and the Filer program to your hard disk for easier access. This makes it very easy to move back and forth between the programs. Create a volume on the Hard disk with the name "/LIB1/", and copy the programs to it. The program name for The Automated Library II is LIB.SYSTEM. If you can boot from your hard disk, you can make The Automated Library II the startup application by having ProDOS on the Disk, and by leaving the name as LIB.SYSTEM. You must also have the file DATA on the /LIB1/ volume.

Option 8 in The Automated Library II will now load the Filer from the hard disk when you choose. Simply press RETURN again when the program asks you to insert the program disk (leave all the volumes mounted all the time, if possible. If this is not possible, at least leave /LIB1/ mounted.)

To exit the Filer and run The Automated Library II, press <esc> until you see the first menu, and then press Q for Quit. The prefix should say /LIB1/ (it's on the bottom line of the box at the top of the screen). Type LIB.SYSTEM and press RETURN. This will cause the Filer to load and run the Automated Library II.

When you are running the Daily Update with a hard disk, the program still prompts you to mount the required disks when it needs them. Since the disks are mounted all the time, you only need to press RETURN when a prompt comes up to insert the next teacher disk. When you wish to search a file, you do not need to remove or insert any disks, simply type in the full pathname of the file you wish to edit.

**If you get a hard disk in the middle of a semester:** You will be able to continue running even better than before. Simply create all the volumes on the hard disk and format them as described above. Then copy all of your disks to the hard disk volumes. You are now ready to run just as before, but the program will automatically utilize the speed, and power of the hard disk.

You will find that the program runs much the same on the hard disk as on the floppys, making it easier to keep on going, even if you start using a hard disk in the middle of a semester. The only differences you will notice are that everything will load much faster, and the daily update will run much faster. In addition, you will not have to remove and replace floppy disks to get the correct one in when you want to search a teacher file for example, and you will not need to back up your disks so often, which will save you some time every day.



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